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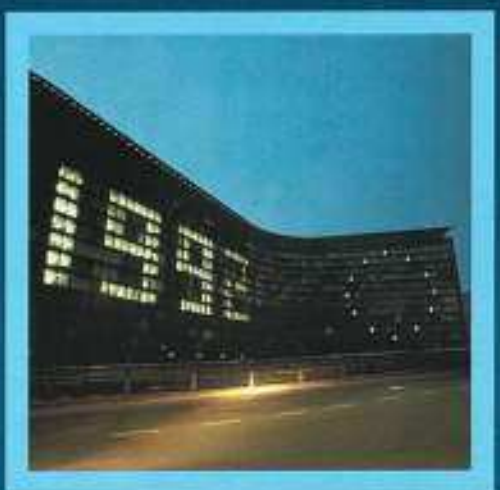
SOCIAL EUROPE

Health and safety at work in the European Community



COMMISSION OF
THE EUROPEAN COMMUNITIES

DIRECTORATE-GENERAL FOR
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2/90

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Health and safety at work in the European Community

This issue was prepared by the Health and Safety Directorate of the Directorate-General for Employment, Industrial Relations and Social Affairs of the Commission of the European Communities, coordinated within the Directorate by Dr Philippe Brunet, Administrator.

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Foreword

In the European Community, the question of health and safety at work affects some 138 million people and their immediate relatives.

The public authorities, the Member States and the European institutions are accordingly responsible for ensuring that safer working conditions become a reality for all of us.

This is the basic question which the second issue of *Social Europe* in its new format sets out to answer. It is aimed at all those who play an active role in health and safety at work. But it is also and in particular directed to all those who without necessarily being experts in the field, feel concerned by this problem.

This issue is in two parts. The first contains a large number of wide-ranging articles, written not only by Commission officials but also by people representing the views of other Community institutions and those who play an active role in this area: the European Parliament, the Economic and Social Committee and the Advisory Committee on Safety, Hygiene and Health Protection at Work, which consists of representatives of the two sides of industry and of governments. The articles are of an informative nature, seeking to explain the main problems encountered and the lines along which solutions may be sought.

The second part of this issue of *Social Europe* is a compilation of official texts of the European Communities on health and safety at work. They form an essential tool for dealing with the subject in depth. Updates will appear in future issues as new texts are adopted. Perusal of the texts reveals the tremendous acceleration in the pace of Community legislation in this field since the Single European Act came into force.

The inclusion of Article 118a in the EEC Treaty has given fresh impetus to the preparation of Community legislation on health and safety of workers. Many new directives have been or are in the process of being adopted with the aim of protecting the health and safety of workers and harmonizing advances in working conditions.

This can be described as a 'plus' for the Community. A number of examples are provided throughout this issue, in particular in the article on the review of national and European legislation.

The adoption of the Community Charter of the Fundamental Social Rights of Workers by the Heads of State or Government of 11 Member States in December 1989, enshrining the basic social rights of workers, was a reaffirmation of the will to improve health and safety at work, a theme which, moreover, occupies a large part of the Commission's action programme for implementing this Charter.

A considerable amount of work, at both Community and Member State level, is being devoted to the task of making a success of the social dimension of the unified European market, as is evidenced by efforts in the field with which we are particularly concerned.

Next deadline: 1992, to bring the present issue of *Social Europe* up to date, and, I sincerely hope, to assess the extent of the progress achieved.

Jean DEGIMBE
Director-General for Employment, Industrial Relations and Social Affairs
Commission of the European Communities

Preface

Historical perspective

It is often assumed that concern with occupational safety and health is a fairly recent development. Yet, the available evidence suggests that safety at work has been of importance from the time that human beings first began to use implements or tools for their work.

There is evidence in the form of objects and tools to suggest that, even at the dawn of mankind, a desire existed to ensure the safety and comfort of workers. In some cases there were even attempts at ensuring that the concept of 'integrated safety' was taken into account.

A magnificent polished stone axe found in the mud of the River Marne was shown by Jean-Jacques Gillon to have an oval-shaped hole made with such precision that it could prevent the shaft slipping out. The neolithic sickle discovered by Sir Flinders Petrie in strata in Egypt, which incorporated a bent wooden arc in which fine flint blades were set by means of bituminous mastic, was also fitted with a protective rim.

The gradual introduction of the metals copper and tin, subsequently followed by the production of iron, was to facilitate the development of certain objects whose essential purpose was to provide personal protection. The initially rudimentary scabbards were not only an integral part of the weapon but were also used on household and industrial tools.

Sailmakers in ancient times used a palm-stall to protect their hands when sewing pieces of skin together. Some very old Italian figurines show protective mitts hanging from the belts of labourers, for the first gloves were used solely for protection. Lastly, the use of needles went hand in hand with the use of another modest, familiar implement: the sewing thimble, which initially was no more than a shell or hollow bone and then became a conical metal cap like those found much later in the excavations at Herculaneum.

In contrast to occupational safety, the observation that work could give rise to disease was recognized at a much later date.

The so-called father of modern medicine, Hippocrates, born in 460 BC, was probably the first physician to note the role of occupation, as well as nutrition and climate in the causation of disease. He gave the first description of lead poisoning in which 'the worker, who was employed on the extraction of metals, suffered a constriction in the stomach area, his abdomen hardened and became stiff, filled with gas and the tissues became discoloured. The affliction moved to his left knee, then back to his abdomen and the attack finally ended in a crisis'. However it is generally accepted that the founder of industrial medicine was Bernardino Ramazzini, a professor at Modena and Padua, Italy, who in 1700 published his book *De Morbis Artificum Diatriba*, which examined the relationship between disease and poverty. He outlined the health hazards of irritating chemicals, dust, metals and other abrasive agents encountered by workers in 52 occupations. His studies of occupational diseases and advocacy of protective measures for workers encouraged the eventual passage of factory safety and workmen's compensation laws.

The Industrial Revolution of the nineteenth century had profound effects on Community life and on the health of people in the factories and mines. A wide-ranging analysis entitled *The Sanitary Conditions of the Labouring Population of Great Britain*, was published by William Chadwick

Even at the dawn of mankind, attempts were made to take into account the safety and comfort of workers.
Tools for masonry and farming found at Pompei.
Photo: Roger-Viollet

in 1842. It gave the average age of death among the gentry as 43. Tradesmen died at 30 and labourers could not expect to live beyond 22. For every person dying of old age or violence, eight died from disease.

The rising toll of deaths and serious injuries from accidents and diseases caused by the new machinery and exposure to toxic substances widened the scope of legislation. As knowledge of the effects of work on health increased, enlightened managements set up their own industrial medical services to improve and maintain health, safety and efficiency.

The Second World War, with its enormous demands on personnel for industry and the armed services, coupled with the need for greater efficiency, also focused attention on the necessity of reducing accidents and diseases at work — a trend which has continued to the present day.

Progress in Member States

The Member States of the European Community have made considerable progress in reducing the incidence of work-related accidents and diseases. Many Member States have long histories of progressive legislation coupled with the promotion of health and safety awareness at all levels not only for employers and workers, but also for the general public.

They have encouraged cooperation between management, health and safety departments, and workers and their representatives, in order to ensure that the workplace environment within firms is continuously monitored.

They recognize that it is a necessity for Member States to ensure that safety and health requirements are taken into account at all times, not only in the design and layout of the workplace, but also in the use of work equipment and dangerous physical, chemical and biological agents.

The range of measures taken by Member States is wide, from revised rules on workplace lighting to specifications for plant and equipment such as steam boilers, and pressure vessels. Some indications of the measures taken by Member States can be given by dividing them into four groups.

The first group of measures — which are not just legislative — covers the unending task of ensuring that the most recent scientific and technical knowledge is used to improve safety and health at work; to make sure that machines and appliances are designed and used in such a way that they do not represent a danger; and to protect people engaged in particularly dangerous jobs.

The second group of measures results from recommendations made to national authorities, not only of improvements felt to be necessary, but also of compliance with legal and administrative provisions.

The third group of measures covers the protection of persons handling dangerous substances.

A fourth group of measures transposes Community law into national laws and regulations — a matter of increasing importance in the light of new legislation at the European Community level.

The actions of the European Community

It has been stated that the European Community is now fully recognized as the main force in the development of new safety and health legislation. Yet this legislation is only a fairly recent development. Thus it was just 12 years ago, in 1978, that the European Community took a decisive step forward in the field of safety and health at work when, on a proposal from the Commission, the Council of Ministers adopted for the first time a programme of action.[1]

In so doing, the Council expressed its political desire to ensure that a global approach was taken to improve health and safety at work. This programme was also the first major result of the Council's decision taken in 1974 to set up the Advisory Committee on Safety, Hygiene and Health Protection at Work.

These moves recognized the evergrowing awareness in the 1970s of the importance of safety and health at work. A particular case in point was the world-wide concern over the appearance of a rare liver cancer in workers in the plastics industry. Subsequent investigations and studies showed that the culprit was a chemical substance — vinyl chloride monomer. This led directly to the adoption in 1978 of a Council Directive on this substance. More importantly, it led also to the adoption in 1980 of a directive setting out a strategy dealing with all physical, chemical and biological agents at work. This strategy served as the basis of a series of individual directives covering lead, asbestos and noise in the period from 1980 to 1986. Thus, although the initiation of Community actions began slowly, by 1987 a total of 10 proposals for directives had been made by the Commission, of which seven had been adopted by the Council.

Further impetus was given to this work by the adoption, in 1987, of the Single European Act, Article 100a of which touches on health and safety matters in relation to the provisions for the establishment and functioning of the internal market, but more importantly, Article 118a of which aims at encouraging improvements, especially in the working environment, as regards the health and safety of workers. The Commission followed up the Single Act by preparing a programme concerning safety, hygiene and

1 OJ C 165, 11.7.1978.

health at work, and in so doing, it confirmed its will to reinforce the social dimension of the completion of the internal market.

The Council welcomed the programme, considering it a useful framework for commencing the implementation at Community level of Article 118a. Furthermore, the Council acknowledged the predominant role of the heightening of public awareness for the success of the measures recommended in the Commission's programme and went on to suggest that a European year in the field should be organized in 1992.

The Commission moved quickly in order to implement Article 118a by transmitting to the Council in 1988 a 'package' of directives. This comprised a 'framework' directive on the introduction of measures to encourage improvements in the safety and health of workers at work, accompanied by five individual directives dealing with the minimum safety and health requirements for the workplace, work equipment, personal protective equipment, display screen equipment, and for the manual handling of loads.

As well as this package, other proposed directives on specific topics were under discussion. These included specific measures to ban certain very dangerous chemical substances, to fix limit values for workers' exposure, and general measures to reduce workers' exposure to both carcinogenic agents and to biological agents at work.

The adoption in 1989 by 11 Heads of State or Government of the Community Charter of the Fundamental Social Rights of Workers which includes a specific reference to the protection of health and safety at the workplace underlined the importance of this work. Furthermore the communication from the Commission concerning its action programme relating to the implementation of this Charter contains a list of new initiatives which are to be proposed in order to improve health protection and safety at the workplace.

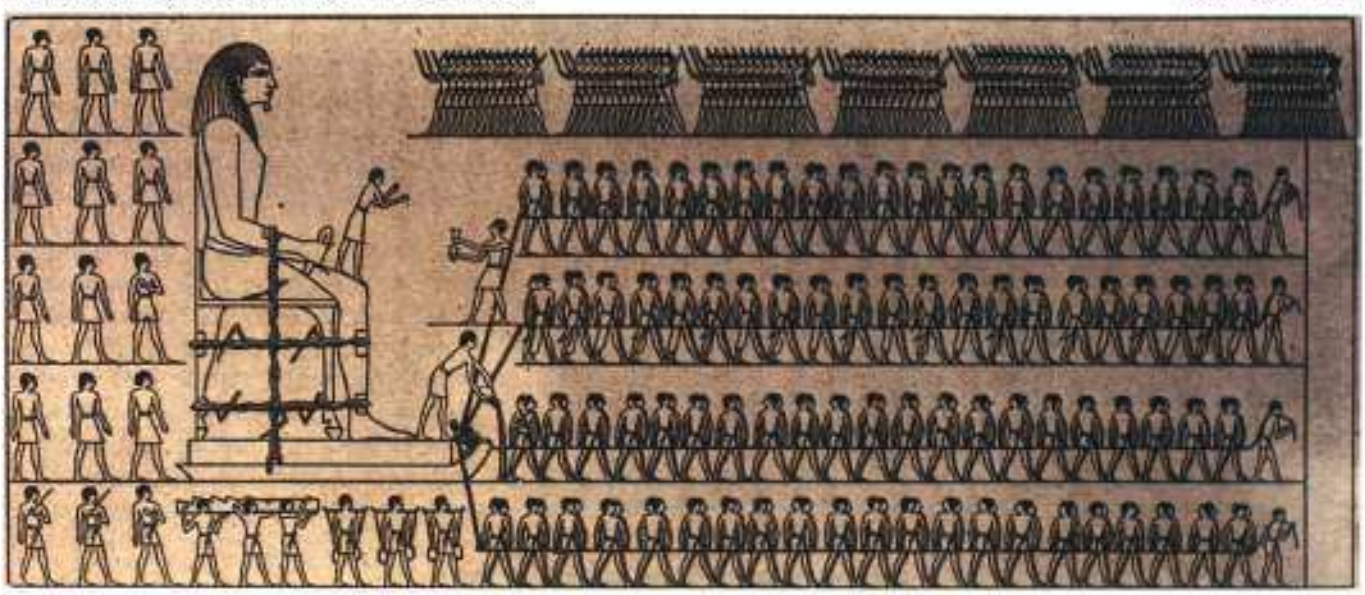
The Commission is actively pursuing the implementation of its programme. Thus this key area is proceeding rapidly, and the programme of work envisaged by the Commission has now been well and truly launched. The Commission recently adopted a recommendation concerning the adoption of a European schedule of occupational disease, and other important proposals are in the pipeline in diverse areas as, for example, safety and health in the construction sector.

This edition of *Social Europe* is devoted to the specific area of safety and health at work, and the part it plays in the wider context of the social dimension of the internal market.

Dr W. J. Hunter
Director for Health and Safety
Commission of the European Communities

Transporting a colossus.
From ancient Egypt to our times, what progress...

Photo: Roger-Viollet



The impact of the occupational health and safety legislation of the European Community on the development of legislation in the Member States

Legislation in the European Community on health and safety goes back well over a decade and the Community is now firmly established as the major force in the development of new health and safety legislation in the Member States.

The Single European Act requires that decisions on issues concerning minimum standards of health and safety be reached by qualified majority voting, as set out in Article 118a of the EEC Treaty. The effect has been to accelerate further the development and introduction of Community legislation in the health and safety field.

An area of some concern in the implementation of Community policy is that Member States with stricter requirements than those set out in Community legislation may lower standards and still be in compliance with Community requirements. This issue was discussed at the highest level by the Heads of State or Government at their Hanover Summit in June 1989 when they made a declaration that existing levels of social protection, particularly occupational health and safety, would not be reduced.

The issue is addressed twice in the framework Directive 89/391/EEC. In the preamble to the Directive it is stated that:

> 'this Directive does not justify any reduction in levels of protection already achieved in individual Member States, the Member States being committed, under the Treaty, to encouraging improvements in conditions in this area and to harmonizing conditions while maintaining the improvements made'.

Article 1(3) requires that the Directive:

> 'shall be without prejudice to existing or future national and Community provisions which are more favourable to protection of the safety and health of workers at work'.

The Commission has also made it clear that the minimum requirements as set out in Article 118a of the Act must not be interpreted as 'minimalist' or the 'lowest common denominator' of existing law. Indeed Member States have powers to introduce more stringent measures of protection under Article 118a(3).

Prior to the adoption of the framework Directive, Member States had already modified and extended their legislation in order to comply with specific Community directives on health and safety at work, notably on discrete issues such as noise and asbestos. Implementation of the framework Directive, however, will require rather more fundamental changes.

These changes will have the effect of broadening the scope of national legislation in Member States, and will require employers and workers to take a far more active approach to occupational health and safety. This will have a significant impact on the organization of workplace health and safety systems.

Legislation in Spain and Portugal is being drafted to take full account of the new framework Directive and the individual directives. In other Member States such as the Netherlands, Germany, France and the UK, the directives are likely to require amendments to be made to primary legislation. Further changes to domestic law will be made through additional regulations or new interpretations of existing requirements. The framework and new individual Directives are under discussion in all Member States. Requirements for implementation will focus on a number of key areas. These are outlined below.

Scope of activities covered by national legislation

Existing legislation in most of the Member States fails to cover all the workers or workplaces included by the framework Directive. The following are not covered in one or more country: civil servants, agricultural workers, family business, shops and work on aeroplanes. In some cases, such as work on ships, provisions under specific sectoral legislation may offer a reduced degree of protection.

Implementation of the framework Directive will require the inclusion of all workers with the exception of the self-employed and domestic servants. This will substantially reduce the divergence between the legislation in Member States, although some countries, including the Netherlands, Greece and the United Kingdom will still go further by covering third parties affected by work.

Employer responsibilities: risk assessment

The directives will introduce a new and potentially powerful requirement for Member States to ensure that employers take a positive stance towards occupational health and safety, in particular through the obligation to assess the risks to the safety and health of workers.

For some Member States this approach is significantly different to that currently in place. In others, it is to some degree already incorporated into the legislation. In the UK, the Control of Substances Hazardous to Health (COSHH) Regulations 1988 require assessments to be carried out under certain circumstances. Experience has shown that

The framework Directive covers all workers with the exception of the self-employed and domestic workers.

Photo: INRS

many employers have radically altered their approach to health and safety to comply with these regulations.

Worker responsibilities

Both the rights and responsibilities of workers must be extended in many of the Member States to comply with the framework Directive. Key areas where much of the legislation in Member States is currently weak are workers' responsibility for their own actions and the responsibility for immediately informing the employer of any work situation which represents a serious and immediate danger to health and safety. More explicit requirements may be needed in either or both of these respects in the majority of the Member States.

Designation of responsible workers

The framework Directive requires Member States to ensure that employers designate one or more workers to carry out activities related to the protection and prevention of occupational risks for the undertaking and / or establishment. In all cases designated workers must have the necessary capabilities and the means, and be sufficient in number, to deal with the organization of protective and preventive measures.

Current legislation in the Member States contains a variety of approaches to such designation of workers and in many cases modifications in the legislation will be required either to extend existing provisions or to introduce new measures to comply with the Directive.

Training and information

There is a range of circumstances set out in the framework Directive for which employers will be required to ensure that workers are provided with adequate job-specific training and information on health and safety. In all Member States there are requirements for the provision of training and information to workers. Implementation of the new framework Directive will serve to strengthen these requirements, particularly in relation to job-specific training.

Health surveillance

The framework Directive will require potentially very broad changes to the approach to routine health surveillance at work. Implementation of these provisions must provide for regular health checks for workers, if they request them, in accordance with national law and practice.

Personal protective equipment, work equipment, minimum health and safety requirements at the workplace

Legislation covering personal protective equipment, work equipment and the health and safety requirements at the workplace exists in all Member States. Nevertheless, the implementation of all these Directives will probably give rise to some amendments in all the Member States' legislation.

Implementation of the new Directives implies that these provisions must be extended to cover the wider range of workers covered by the framework Directives. The latter will probably require amendments in all the Member

States' legislation, although in general the authorities of the Member States believe that only minor changes will be needed to come into line with the standards laid down in the Annexes to the Directives.

Legislation in France and the Netherlands, for example, is likely to require extension to introduce a specific obligation to provide personal protective equipment where risks cannot be avoided.

The workplace Directive contains two Annexes with different standards for new existing workplaces. In some Member States, for instance Belgium and Denmark, the intention is to introduce a single set of requirements which will meet the more stringent provisions of the Directive relating to new workplaces. In contrast to this, French legislation already distinguishes between new and existing workplaces and future developments are likely to maintain this dual structure. The approach likely to be adopted in the United Kingdom and the Netherlands is the creation of one set of standards meeting the requirements for both old and new workplaces.

The Directives on the minimum safety and health requirements for work with display screen equipment, and on manual handling of loads, will have implications for all Member States, not least because few Member States have specific legislation covering these areas. Of particular significance is the fact that workstations put into service after the display screen equipment Directive comes into force must take into account minimum technical requirements set out in an Annex covering workstations, the display screen itself, as well as environmental factors such as glare, lighting, noise, task design and software.

Rescue practice.
Workers must receive adequate training on health and safety.
Photo: INRS

The last decade has seen a distinct change in the approach by Member States to health and safety at work legislation. The Community is now seen by most as the 'engine' driving the process for better standards of health and safety protection for workers, and, importantly, for greater harmonization in the degree of protection for workers wherever they may work within the Community.

As the analysis of the situation under the new framework Directive shows, there are still substantial differences in the application of laws in Member States which should be ironed out once the directive is implemented. No Member State can rest on its laurels and do nothing as none of the Member States yet meets all the requirements in full. Clearly there is more to be done and substantial benefits should accrue to their workers as a result.

Any programme of harmonization has built into it an inherent risk of 'backsliding' by the leaders to the level of the minimum standard. There is nothing in the work of the Community so far - to suggest that standards are being set at the level of the lowest. On the contrary, new requirements to adapt work to the worker under the framework Directive show how innovative and far-reaching Community legislation on health and safety at work can be. Overall the atmosphere appears to be more purposeful and coordinated under the stewardship of the Community.

Environmental Resources Limited (ERL)

CHAPTER 1

Preparing legislation

Since 1974 there has been consultation between the Commission departments concerned, the Member States and the representatives of workers and employers in the Advisory Committee on Safety, Hygiene and Health Protection at Work.

In order to afford an understanding of the preparation of Community legislation in this field, we considered it worthwhile to reproduce here most of the article on the Advisory Committee which was published in issue 3/89 of Social Europe and to supplement it with the views of representatives of the 'government', 'workers' and 'employers' groups.

A considerable speeding-up of the preparation of Community directives has been made possible by the adoption in 1987 of the Single European Act. In this chapter the reader is also enlightened on the cooperation procedure by means of which the European Parliament and the Social and Economic Committee can be more closely associated in this work.

Advisory Committee on Safety, Hygiene and Health Protection at Work

An increasingly important role

The adoption of the Single European Act had led to a considerable intensification of the work of the Commission departments with responsibility for the protection of health and safety of workers and, consequently, to an expansion of the machinery for the preparation of the relevant measures.

In this connection the Advisory Committee on Safety, Hygiene and Health Protection at Work[1] has been regularly consulted in response to Commission initiatives, while its role, stressed at Commission, Council and Parliament level during discussions of action programmes, has become considerably more important, particularly since the implementation in the form of directives of Article 118a of the EEC Treaty and, more recently, the action programme relating to the implementation of the Community Charter of the Fundamental Social Rights of Workers.[2]

This change of pace and the strengthening of the Committee's role need to be looked at against their historical background.

Presentation of the Committee

Three factors led the Committee to propose the setting-up of such a Committee in 1974. First, the recognition that the profound transformation in production methods in all sectors of the economy and the spread of new technologies and the use of dangerous substances are creating new problems as regards protection of the health and safety of workers. Secondly, the fact that protection against occupational accidents and diseases as well as occupational hygiene are among the objectives of the EEC Treaty and, lastly, the Council Regulation of 21 January 1974,[3] concerning a social action programme in safety and health conditions at work.

In the light of these factores, the Commission decided it was necessary to set up a permanent body to assist it in preparing and implementing activities in this field.

Created by the Council Decision of 27 June 1974,[1] the Advisory Committee on Safety, Hygiene and Health Protection at Work represents the response to this need, its purpose being to facilitate cooperation between national administrations, trade unions and employers' organizations.

It has responsibility for all sectors of the economy except the industries covered by the ECSC Treaty, which provides for coordination with the Mines Safety and Health Commission, and the industries covered by the EAEC Treaty (Euratom) as regards the dangers arising from ionizing radiation.

The Committee consists of 72 full members, there being for each Member State two government representatives, two trade-union representatives and two representatives of employers' organizations.

On the basis of government proposals, these members are appointed for a three-year term by the Council, which endeavours to ensure a balanced representation of the various economic sectors concerned.

The Committee is chaired by the Commissioner responsible for the Directorate-General for Employment, Industrial Relations and Social Affairs (DG V). Since 1 January 1989, Ms Vasso Papandreou has held this post.

The secretarial services for the Committee are provided by Unit E/5 of the Health and Safety Directorate of DG V.

The Committee is responsible, in particular, for:

(a) conducting, on the basis of information available to it, exchanges of views and experience regarding existing or planned regulations;

(b) contributing towards the development of a common approach to problems existing in the fields of safety, hygiene and health protection at work and towards the choice of Community priorities as well as measures necessary for implementing them;

(c) drawing the Commission's attention to areas in which there is an apparent need for the acquisition of new knowledge and for the implementation of appropriate educational and research projects;

1 OJ L 185, 9. 7. 1974.
2 Adopted by the Heads of State or Government of 11 Member States of the European Community meeting in Strasbourg on 8 and 9 December 1989 (Council Doc. FN 441/2/89 point II.b, published in 1/90 of *Social Europe*).
3 OJ C 13, 12. 2. 1974.

(d) defining, within the framework of Community action programmes, and in cooperation with the Mines Safety and Health Commission:
  (i) the criteria and aims of the campaign against the risk of accidents at work and health hazards within the undertaking;
  (ii) methods enabling undertakings and their employees to evaluate and to improve the level of protection;

(e) contributing towards keeping national administrations, trade unions and employers' organizations informed of Community measures in order to facilitate their cooperation and to encourage initiatives promoted by them aiming at exchanges of experience and at laying down codes of practice;

(f) submitting opinions on proposals for directives and on all measures proposed by the Commission which are of relevance to health and safety at work.

In order to accomplish these tasks, which necessitate recourse to a variety of disciplines ranging from industrial medicine to toxicology, ergonomics and engineering techniques, the Committee may obtain assistance from the requisite experts and set up appropriate working parties.

After careful consideration of the nature of its tasks, the Committee has now adopted a structure based on three interest groups, namely workers, employers, and government representatives, and a number of *ad hoc* groups. The resulting structure is fully integrated into Commission initiatives.

Finally, an organization group, comprising three representatives from each of the interest groups, coordinates the Committee's work in conjunction with the Chairmen of the *ad hoc* groups.

Every year, the Committee prepares a progress report[1] which the Commission forwards to the Council, the Parliament, the Economic and Social Committee and the ECSC Consultative Committee.

1974-85: The first and second Commission action programmes and the first Directives

From the outset, the Advisory Committee on Safety, Hygiene and Health Protection at Work asked to be informed in good time of any Commission initiative concerning health and safety at work so that it could respond effectively.

It immediately set up three working parties and, in 1977, examined the draft Directives on vinyl chloride monomer,[2] the classification, packaging and labelling of dangerous substances,[3] the monitoring of certain industrial activities in respect of accident hazards, and the harmonization of the legal and administrative regulations of the Member States on the provision of safety information at the workplace.[4]

One of the Advisory Committee's first tasks was to deal with safety signs at the workplace.
Photo: INRS

At around the same time the Committee played a major role in drawing up the first action programme of the European Communities on safety and health at work,[5] covering the period 1978-82. For the first time in this field, the Commission, with the agreement of both sides of industry, initiated a four-year coordinated action programme.

This programme focused principally on the causes of occupational accidents and diseases, protection against

1 Available from the Committee Secretariat, Office C4/78, Jean Monnet Building, rue Alcide De Gasperi, L-2920 Luxembourg. Tel.: 43 01-23 45/28 02.
2 OJ C 291, 10. 12. 1976.
3 OJ C 260, 5. 11. 1976.
4 OJ C 96, 29. 4. 1976.
5 OJ C 165, 11. 7. 1978.

dangerous substances, prevention of the hazards and harmful effects associated with machinery and the improvement of human behaviour.

In 1978, the Committee delivered its opinion on draft Directives concerning machine-tools and similar machinesfor the working of wood and other materials,[1] hand-held, power-driven, portable grinding machines,[1] and the amendment of Directive 73/173/EEC concerning the classification, packaging and labelling of dangerous preparations.[2]

In 1979 it was involved in the drafting of Directives on asbestos,[3] safety signs,[4] tower cranes,[5] the approximation of the law of the Member States relating to roll-over protective structures (rops) and to falling-object protective structures (fops),[6] and the noise emission of construction plant and equipment.[7]

In 1981 it delivered an opinion on the draft Directive on microwave radiation.[8]

In 1982 it delivered an opinion on the draft Directive on dangerous agents and processes and, in the light of the execution of the first action programme, which it criticized, the Committee actively participated in the preparation of the second action programme,[9] which was intended to follow on from the first.

This second programme continued the measures begun under the first programme and dealt with such new aspects as training, information, statistics and research, and cooperation with other international bodies such as the ILO and the WHO.

In 1983 the Committee delivered an opinion on the harmonization of exposure limits and biological, medical and workplace monitoring[10] and, in 1984, under the second action programme, it helped to draft Directives on benzene, the safety of fishing vessels and a toxicology action programme.

When, in 1985, the Committee learned of the work of the Commission and the Council concerning the completion of the single market,[11] it deplored the fact that it had not been consulted and given the opportunity for an exchange of views at the preparatory stage.

The Committee subscribed to the view that there were still many obstacles to the free movement of goods and services, particularly technical barriers arising from differences in national legislation. It welcomed the initiative taken by the Committee and the Council, described as a 'new approach to technical harmonization and standards', which was designed to eliminate these obstacles and create a more dynamic environment for industry and employment in Europe.

The Committee pointed out however that this new approach created a number of problems, mostly the need to clarify the concept of essential health and safety requirements contained in the Council Resolution of 7 May 1985 and to establish whether these requirements also covered the use of equipment at work.

It stressed the link between these matters and the preparation of technical specifications in the form of standards and, in this connection, was concerned to ensure that the elimination of barriers to trade would not lead to an impairment of worker protection standards.

The period since 1986: Intensification of activities

The implementation of the second action programme and the political stimulus provided by the White Paper led to a considerable increase in the Advisory Committee's work in 1986, resulting from the intensification of Commission activities during the execution of the second action programme on health and safety at work.

Consequently, the marked reduction in the Committee's activities which had been apparent for some years was reversed (see graph).

Wider responsibilities for greater effectiveness

In the light of Chernobyl and other incidents at nuclear power stations, the Committee examined the advisability of assuming responsibility for the protection of workers' health against the dangers of ionizing radiation.

The problem was that the terms of reference laid down for the Committee in the Council Decision[12] covered all sectors of the economy with the exception of the mineral-extracting industries and the health protection of workers against the dangers arising from ionizing radiation.

Although the Euratom Treaty provides for consultation of the Economic and Social Committee on this last-mentioned topic, it does not require consultation of the two sides of industry in preparing Community measures and drafting proposals for the Council.

When consulted on the possible extension of its activities to include nuclear safety, the Committee signified its ap-

1 OJ C 23, 27. 1. 1978.
2 OJ C 25, 31. 1. 1978.
3 OJ C 78, 28. 3. 1980.
4 OJ L 183, 19. 7. 1979.
5 OJ C 25, 29. 1. 1979.
6 OJ C 104, 28. 4. 1980.
7 OJ C 300, 1. 12. 1979.
8 OJ C 249, 28. 9. 1980.
9 OJ C 308, 25. 11. 1982.
10 OJ C 165, 11. 7. 1978.
11 White Paper: 'Completing the internal market': COM(85) 310 final of 14 June 1985.
12 OJ L 185, 9. 7. 1974.

proval in its communication to the Council of 20 August 1986 on the development of Community measures designed to implement Chapter III of the Euratom Treaty, 'Health and Safety'.[1] The Commission proposed an amendment to the Decision setting up the Advisory Committee, with a view to including radiation protection in its terms of reference.

This Commission initiative confirmed that the Committee had proved an effective instrument in the preparation of texts on the health and safety of workers.

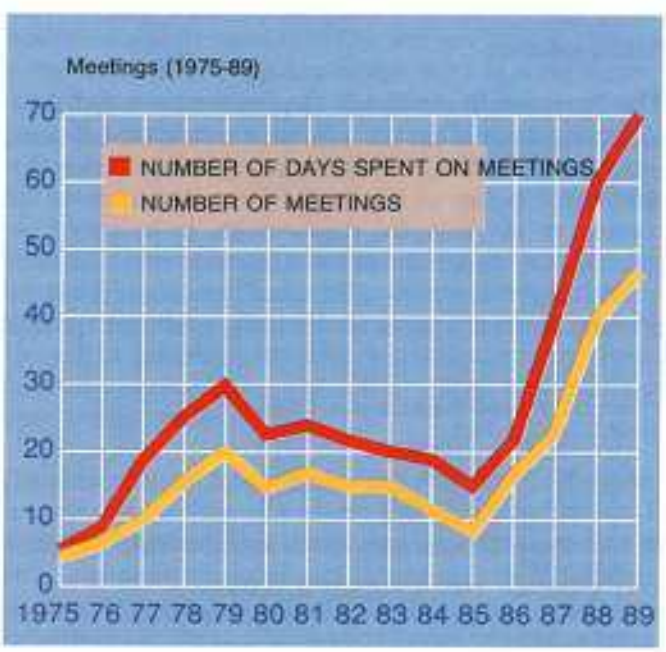
The implementation of Article 118a: Stepping up the pace of activities

The year 1987 saw an intensification of the Committee's activities as a result of the impetus provided by the Single Act, which entered into force on 1 July and, more specifically, the implementation of Article 118a. In fact, as soon as the Single Act came into force, the Commission prepared a communication on its programme concerning safety, hygiene and health at work[2] in order to demonstrate its desire to make rapid use of the complete range of resources made available by this new legal instrument so as to give greater emphasis to the social dimension in the completion of the internal market. The Commission departments concerned and the Committee, which cooperated closely on this task, drew up the third action programme and proposed that efforts be concentrated chiefly on the following six subjects:

(i) safety and ergonomics at work;

(ii) occupational health and hygiene;

(iii) the development of information;



(iv) the organization of training;

(v) small and medium-sized enterprises;

(vi) social dialogue.

As regards this last point, the Commission recognized that the Committee 'provides a highly appropriate forum for consultation between the two sides of industry. This Committee must play fully its part in assisting the Commission in defining the action it will take in this field' and that 'the Commission will continue to consult the Committee on the proposals which it intends to present to the Council'.

This affirmation of the political role of the Committee was confirmed when, on the basis of the abovementioned communication, the Council adopted a Resolution on safety, hygiene and health at work.[3] It is significant that this Resolution, on two occasions, explicity states the Council's desire to involve the Committee in the preparation of Commission work programmes[4] and directives.[5]

These developments were clearly of crucial importance in view of the in-depth discussions which they provoked and their consequences for the Committee's working methods.

Notwithstanding the extremely short time available, the Committee carried out a methodical analysis of the substance of the Commission's communication and delivered a joint opinion accompanied by individual comments from each interest group.[6]

In preparing this opinion, the Committee provided proof, under difficult circumstances, of its ability to respond promptly to Commission initiatives and justified its role as a highly appropriate forum for social dialogue assigned to it by the Commission communication and the Council Resolution.

During this consultation, the Committee's working methods were reconsidered and clarified. It was established that the Committee must examine all proposals emanating from the various Commission departments and relating to the health and safety of workers.

The question of the widening of responsibility to cover aspects of the Euratom Treaty was referred to the Working Party on Social Questions on 22 June 1987 and to Coreper on 3 November 1987. The final decision rests with the Council, to which the matter has not yet been referred.

1 COM(86) 434 final.
2 OJ C 28, 3. 2. 1988, p. 3.
3 OJ C 28, 3. 2. 1988, p. 1.
4 Idem II — (1)a.
5 Idem II — (5).
6 See minutes of the 21st plenary meeting (Doc. VI/UX/7639/67).

In 1988, the consequences of the implementation of Article 118a[1] and of the subsequent action programme and Council resolution[2] continued to have a considerable effect on the Committee's work. With 40 meetings spread over 60 days, the Committee and its *ad hoc* groups were more active than at any time in the past (see graph on p. 17).

On a political level, the Committee continued to play an important role, specifically in the Commission's initiatives aimed at defining the social dimension of the internal market, and, more particularly, in one of the five main areas covered, i. e. encouraging improvements in living and working conditions.

It made a decisive contribution in preparing the first set of Commission proposals based on Article 118a, which consisted of a framework directive[3] and five specific directives on:

(i) use of personal protective equipment at the workplace;[4]

(ii) safety and health requirements for the workplace;[4]

(iii) use of work equipment;[4]

(iv) manual handling of loads;[5]

(v) work with display screen equipment units.[6]

The *ad hoc* groups monitored the preparation of these directives by the Commission and delivered its opinion on them. In so doing the Committee met the Commission's needs despite the organizational problems associated with this work programme, and also fulfilled its advisory role.

It should also be stressed that the contributions of each interest group on all of these subjects demonstrated a constant willingness to take account of the social dimension to be assumed by the creation of the large internal market in 1992.

An additional dimension: Standardization

The problem raised by the new approach to technical harmonization and standards

We have seen how, in 1985, the Committee came to examine the Commission White Paper[7] and the problems posed by the new approach to technical harmonization and standards with a view to the completion of the large internal market by 1992. The Council Resolution of 7 May 1985 states that this new approach is based on a number of fundamental principles, the first of which specifies that 'legislative harmonization is limited to the adoption, by means of Directives based on Article 100 of the EEC Treaty, of the essential safety requirements with which products put on the market must conform.'[8]

The same text entrusts the task of drawing up technical specifications for the production and placing on the market of products conforming to the essential requirements established by the Directives to organizations competent in the standardization area.

The technical specifications are not mandatory and maintain their status of voluntary standards but, at the same time, national authorities are obliged to recognize that products manufactured in conformity with harmonization standards (or, provisionally, with national standards) are presumed to conform to the essential requirements established by the Directive.

Finally, the quality of harmonized standards must be ensured by standardization mandates, conferred by the Commission.

In following the system of legislative harmonization, the Commission intends to be able to halt the proliferation of excessively technical directives. The scope of directives according to the general reference to standards formula should encompass wide product categories and types of risk.

The countries that are most advanced in these areas have tackled the problems of standards in advance by setting up systems involving specific technical standards and regulations based on health and safety criteria. This approach essentially means that both products and the working environment must satisfy specific design and planning requirements.

In the case of products, this implies standards relating to the conditions governing entry into service and use while, in the case of the working environment, quality standards, limit values and methods of measurement are involved.

Critical reactions

The European Trade Union Confederation voiced three major criticisms of the new approach and on the following procedure: Directive — Commission mandate to the standardization bodies — standards.[9] First, it considered the content of the essential requirements to be imprecise; secondly, the complete freedom allowed to manufacturers in deciding whether to affix the Community mark to products seemed to invite abuse; lastly, it felt that the lack

1 See 11th Progress Report, Section IV (c).
2 OJ C 28, 3. 2. 1988.
3 OJ L 183, 29. 6. 1989, p. 1.
4 OJ L 393, 30. 12. 1989.
5 OJ L 156, 21. 6. 1990, p. 9.
6 OJ L 156, 21. 6. 1990, p. 14.
7 White Paper: 'Completing the internal market', COM(85) 310 final of 14 June 1985.
8 OJ C 136, 4. 6. 1985, p. 2 (Annex II, paragraph 1).
9 Sapir, M. 'L'intervention des interlocuteurs sociaux dans la normalisation européenne'.

of involvement of labour and management in the definition of standards for the health and safety of workers could have a detrimental effect.

Within the Committee, the worker's group noted a double imbalance with regard to the world of work. Standardization had traditionally been the task of industrialists (manufacturers and consumers) and the new approach directives which had been or would be adopted by the Council imposed major obligations on the Member States as regards guarantees of freedom of movement. These guarantees are an essential element in completing the internal market and, consequently, the group was anxious for this arrangement to take account of the obligations relating to the health and safety of workers, and wished to be consulted from the beginning when directives were being drawn up.

In a common position adopted on 21 December 1988 concerning the machines Directive, the Council stated that the legislative framework should be improved with a view to ensuring an effective and appropriate contribution to the standardization process by employers and employees.

Replying to proposals for amendments in a European Parliament debate, Lord Cockfield, Vice-President of the Commission, stated the latter's position as regards the consultation of workers', employers' and inspection-body representatives on the standardization of working conditions:

'The Commission accepts the need for such consultation and has taken significant and important steps to set up the necessary procedures. Thus, they have already informed the European Trade Union Confederation that the Commission accepts the need to involve workers' representatives in the evaluation of standardization work at three stages. First of all, the drawing up of standardization programmes and mandates. Second, technical work in standardization bodies, and thirdly, the examination of draft European standards submitted to public enquiry.

The Commission accepts that the Advisory Committee on Safety, Hygiene and Health Protection at Work is the appropriate framework for such consultation. The Commission will be presenting its views on practical arrangements for these consultations ... with a view to final agreement on these arrangements.

The aims of these amendments can therefore be attained through the existing procedures and structures which I have just described. This would have the advantage that it would not upset the institutional balance which has been achieved through the new approach between legislative authorities and the standardization bodies whose deadlines and procedures must be respected. We can, and I am prepared to give an undertaking on this point, pursue these matters further to ensure that the arrangements for consultation are fully adequate'.[1]

In its memorandum on 'Trade unions and the preparation of European standards', CEN/Cenelec recommends that trade unions should participate in the implementation and planning of standardization programmes by joining national delegations. It also recommends that the explanation of technical problems and the provision of information on standardization procedures should be the responsibility of its member Committees.

This proposal did not allay the fears of the unions which, with a view to closely monitoring the technical activities of the standardization bodies, set up the European Trade Union Technical Bureau of Health and Safety in February 1989. One of the objectives of this Bureau is to undertake studies and to provide information relating specifically to European harmonization and standardization activities in the field of health and safety at work in conjunction with a standardization group to be set up within the framework of the Advisory Committee.

Greater Committee involvement

Aware of the increasingly important role of standardization in the practical attainment of European integration in industry and in markets, and in accordance with the principles laid down when it was created, the Committee wishes to be involved in the monitoring of standardization work.[2]

With this in view, the Committee studied ways of adapting its structures and pace of work and, at its plenary meeting in March 1989, unanimously adopted an opinion defining the extent of its involvement in European standardization work.[2]

This opinion makes clear that the Committee distinguished two types of intervention based respectively on Articles 100a and 118a of the Single Act. In the former case, the Committee considers that, if the Commission intends to define standards for the purpose of implementing directives, the standardization mandate should be returned to the Committee for examination and, where appropriate, definition of priorities for standardization activity. As regards activities under Article 118a, the Committee considers that the procedure adopted with reference to Article 100a can be applied for the purposes of establishing standardized reference measurement methods for various physical, chemical and biological agents.

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1 Report of proceedings of the European Parliament, 15 and 16 November 1988 — Lord Cockfield, Member of the Commission.

2 Doc. 5326 of 3. 3. 1989: 'The role of the Advisory Committee in European standardization work'.

The Advisory Committee is involved in work on standardization. *Photo: EEC*

In order to facilitate the implementation of these measures, the Committee set up a standardization group alongside the organization group (see Chapter 2) with the task of organizing information and work in this field.

Various roles

A role in promoting social dialogue

We have seen how the Committee has a tripartite structure and how each of the parties, organized in the form of an interest group, is required to comment on Commission proposals in this capacity.

In this connection, it should be pointed out that this distribution of roles does not reflect the existence of a homogeneous 'doctrine' within each group. The Council appoints the members on the recommendation of the Member States, and the limited number of representatives (six) from each country makes it impossible for the total spectrum of social and professional interests to be represented.

It was for this reason that the workers' group chose as its spokesman a representative of the European Trade Union Confederation, which represents the great majority of workers' organizations, with a view to facilitating coordination between the members of different unions.

In the employers' group, the spokesman varies depending on the matters in hand.

In both cases, the presentation of coherent and constructive opinions largely depends on the skill of the coordinators acting within the framework of their respective interest groups.

The government group is coordinated in accordance with a system based on the Council Presidency and consequently involves rotation every six months. Whilst the representatives of the national administrations have no formal mandate from their governments, their contribution is distinguished by a desire for realism and social progress.

Although the Committee is constantly seeking to achieve a consensus, unanimity often proves impossible on certain points. The Committee then adopts a common position covering all the points on which there is general agreement, supplemented by opinions enabling each of the interest groups to present their particular point of view.

Thus, the Committee's composition, internal organization and working methods provide a relatively satisfactory response to the need for in-depth consultation of both sides of industry from the start of work on texts concerning the health protection and safety of workers.

This role is of fundamental importance in a field where technical complexity and social and professional awareness are closely interwoven.

A political function

The impact of Article 118a of the Single Act on the Committee's work has already been described.

In this connection, it should be stressed that, in the context of the social dimension to the completion of the single market, the problems concerning the health and safety of workers have led to a political consensus concerning the need for a number of significant measures.

This is reflected in the strong involvement of the three interest groups in the examination of Commission texts and the constant search for solutions acceptable to all.

It would be fair to say that what was previously a platform for passing dogmatic judgments on Commission proposals has gradually become a kind of active element in the drafting of texts at the scientific, technical and political levels, which is essential for subsequent work under the cooperation procedure.

As a result of this cooperation, the texts submitted to the Council already bear the mark of both sides of industry and, consequently, eliminate certain difficulties which could arise during subsequent discussions involving the Council Working Party on Social Affairs, Coreper, and even the European Parliament.

This role of adjusting texts and bringing them into line with political sensitivities is also a function of great interest to the Commission.

A role in ensuring mutual information

At another level, attention should be drawn to the importance of information flow in what has been described as a highly appropriate forum for consultation between the two sides of industry:

(a) the Commission passes information to workers and employers who are thereby made aware of its initiatives and are in a position to intervene at the most appropriate time;

(b) in turn, they provide information enabling the Commission to gauge the social climate with regard to occupational health and safety, identify developments and new interests as they emerge and reorientate its activities accordingly;

(c) information also passes between workers and employers and between the Member States. This allows the representatives to be kept permanently informed of the latest national developments in any field.

A role in identifying problems and initiating action

Another positive aspect of the Committee's role is its ability to act on its own initiative to examine problems which have not yet been the subject of a Commission report and, in so doing, to enlarge the latter's field of action.

This power of initiative, based on the expert status of Committee members, enables topics meriting attention to be identified and ranked according to their importance.

A privileged forum for social dialogue

A general observation seems called for: in circumstances as exceptional as those associated with the implementation of Article 118a of the Single Act, the Committee has demonstrated its ability to respond rapidly to Commission initiatives and has justified its role as a privileged forum for social dialogue assigned to it in the Commission communication and the Council resolution.

Furthermore, the Committee's new obligation to comment on all Commission proposals concerning the health and safety of workers has necessitated an adjustment of its structure and an increase in its pace of work.

This raises the question of how the Committee's influence is to be assessed since this is exercised on a case-by-case basis as each text is proposed by the Commission. Neither is it easy to assess the following: the diffuse and constant influence of the flow of information between the Committee departments and the Committee members, which ensures that all concerned remain in touch with one another; the effect of ongoing discussions between both sides of industry on subjects of a highly technical nature, which are reflected

in the texts as drawn up by the relevant departments; the value of this *ex-ante* consultation prompted by Commission initiatives.

By way of reply, reference should be made, firstly, to the deep involvement of every individual member of the Committee; secondly, to the sense of responsibility and desire for consensus shown by the interest groups and, finally, to the constant effort to achieve improvements which characterizes the Committee's overall approach.

Nevertheless, the most encouraging reply is provided by the number and quality of the directives submitted by the Commission and adopted by Parliament and the Council within the framework of Article 118a, which underlines the conclusion reached at the European Council in Madrid (26 and 27 June 1989), whereby the latter 'notes with satisfaction that the objectives of Article 118a are in the process of being achieved through the adoption of major directives concerning the health and safety of workers which lead to an improvement in the quality of life at work'.

Yves MORETTINI
Head of Unit
Commission of the European Communities

The view of a member of the 'government' group

The setting-up in 1974 of the Advisory Committee on Safety, Hygiene and Health Protection at Work on the initiative of the French President was designed to meet two objectives, namely:

- to emphasize the importance that health and safety at work could assume in Europe, with the prospect of further expansion;
- to set up a flexible structure so that both sides of industry could be more closely involved than previously in the policies which the European Community was preparing to tackle seriously for the first time.

Today, these two objectives are more important than ever, now that the Single European Act, and in particular Article 118a, has provided the basis for an ambitious policy of harmonization of national legislation on health and safety at the workplace.

Without usurping the role of the other bodies provided for in the Treaty, the Advisory Committee now plays a specific, very important role commensurate with the objectives assigned to Europe, as illustrated by the Council's resolution of December 1987 and the Commission's programme for health and safety at work between now and 1992.

Having had the privilege of sitting on this Committee since 1986, I cannot overemphasize the efforts made by the Commission in progressively equipping the Committee with suitable ways and means of ensuring that its tasks are carried out in a manner satisfactory to the governmental members of the Committee.

In particular, great progress has been made thanks to the *'ad hoc* group' procedure, which has enabled the Committee to formulate its opinions within the time required for the purpose.

As a result, the Committee now plays an absolutely indispensable dual role, namely:

- It permits consultation between Member States before the final text which the Commission submits officially to the Council is drawn up, so that the work subsequently carried out by the Council is done better and more efficiently as a result.
- Secondly, and most importantly, the Committee makes it possible to gather the opinions and arguments of employers' and employees' organizations, both on the essential principles advanced in a certain draft directive, and on the points which one or other of the members of the Advisory Committee may judge to be of fundamental importance.

For these reasons, we can safely say that if this body did not exist, it would certainly be necessary to set it up. Indeed, it would hardly be normal if the consultations between the two sides of industry, which over the years have developed their own forms and procedures in the 12 Member States, did not have its counterpart at Community level.

Just as each Member State has taken the necessary measures to gather the advice of both sides of industry on the projects which it may have in mind, so on the European level it is necessary for the Commission and for the 12 Member States to ensure that the texts which will be discussed later in Brussels by the Council are first submitted for the appraisal of the partners who will have to implement them or who will benefit from them.

It is a matter not just of the need for consistency between the various texts being prepared, but also of the need to ensure real industrial dialogue on those issues which affect the lives of millions of workers in companies throughout Europe.

François BRUN
Ministry of Labour, Employment and Vocational Training (France)

The view of a member of the 'workers' group

Life and health are the worker's most precious assets. Accordingly, prevention of hazards to health from work must be treated as a priority in the European unification process. A high standard of health protection and safety in the working environment is at the same time an essential prerequisite for effective environmental protection in the Community, because the risks from exposure to chemical, physical and biological agents which affect the very basis of human life can be avoided only if an effective system of protection can be set up in the working environment in which they invariably arise at the outset.

Where workers are concerned, the Advisory Committee on Safety, Hygiene and Health Protection at Work is the most important body when it comes to initiating activities in the field of safety at work in the Community and influencing opinion formation in the Commission. Of particular value in this context is the dialogue in the Advisory Committee between representatives of employees, employers and governments.

Article 118a of the EEC Treaty has provided the necessary legal basis for ensuring that workers' interests as regards health protection are not swept aside in the Community's economic harmonization process. The Community bodies and the Member States are required to promote in particular the improvement of the working environment in order to protect workers' safety and health and to achieve the harmonization of conditions in this area while at the same time consolidating progress on behalf of the workers. Via this legal basis the Advisory Committee has been afforded a key role in all matters concerning the organization of work on a human scale in the Community. It has in fact exercised this responsibility and in discussions with the Directorate-General for Employment, Industrial Relations and Social Affairs submitted proposals for a number of directives for implementing Article 118a of the EEC Treaty. Of outstanding importance is the 'framework Directive' on improving workers' safety and protecting their health, which has now been adopted by the Council and brought major advances in labour protection legislation to the benefit of workers in most Member States.

The Advisory Committee has also given decisive impetus to the work of other Directorates-General, for example, on law concerning machinery and the classification of carcinogens.

In the future the Committee should act more vigorously than hitherto to achieve a high level of protection in the areas of health and safety in the working environment when, under Article 100a of the EEC Treaty, laws, regulations and administrative provisions are adopted which have as their object the establishment and functioning of the internal market.

For the purposes of its further activity the Committee should draw up a short, medium and long-term programme targeted on a safe and healthy working environment for the Community, so that, in view of the completion of the internal market in 1993, shortcomings in the law on labour protection can be eliminated and legislation on the subject standardized in the Community. In order to enable the Advisory Committee to cope with the mounting tasks facing it, its working conditions must be improved, in particular by increasing the staff of its secretariat.

Rheinhold KONSTANTY
DGB[1] Federal Executive
Social Policy Division

[1] German Trade Unions' Federation.

The view of a member[1] of the 'employers' group

The early days

Employers of the European Community supported the creation of this Advisory Committee at its creation some 13 years ago. For employers, it has two important purposes: first, it enables them to learn at an early stage about the policies and proposals of the Commission in relation to workplace health and safety; secondly, it helps them to find common ground with the representation of the trade unions and governments on these matters.

It was in this spirit of cooperation and consensus that employers made their contribution to the early work of the Advisory Committee and its far-reaching opinions on, for example, the framework Directive on harmful substances and the important specific directives, including those for asbestos and noise at work.

The Advisory Committee has grown significantly with the enlargement of the Community in recent years. It has become a very large body that has had difficulty in articulating common priorities. The employers have therefore supported all efforts to streamline and strengthen its operation, particularly through working parties, *ad hoc* groups and the restricted group. The employers have also found informal discussion between the spokesmen of the social partners to be of special value in developing agreed statements as far as possible.

The Single European Act

Employers noted Article 118b of the Single Act in the context of health and safety and saw it as an endorsement by Heads of Governments of the attempt by the social partners to develop the dialogue between them and with the Commission on relevant topics.

The Advisory Committee was made to work hard in the months following implementation of the Single Act and the almost simultaneous publication of proposals for a Third Action Programme for Health and Safety. Luxembourg airport can never have seen so many health and safety experts pass through its gates as it did in the cold winter of 1987/88, when the dialogue intensified on the Commission's proposals for a framework Directive on safety and for numerous specific directives.

Employers saw this period as critical in the development of a fair and practical framework for Community health and safety law, and sought to play their part at every stage in the making of common opinions by the Advisory Committee on the Commission texts.

Through these hectic days on consultation, a sense of common purpose and corporate responsibility was developed which greatly helped to expedite the Advisory Committee's work.

Employers are grateful to the Secretariat of the Advisory Committee and to the Staff of Directorate E, 'Health and Safety', of Directorate-General V for their friendly advice and support over a testing period, and look forward to their continued amicable cooperation as the Commission's programme is developed towards completion.

R. F. Eberlie
Director, Confederation of British Industry
Brussels office

1 Up to 1989.

The cooperation procedure — getting the European Parliament more closely involved

One of the innovations of the Single European Act which has particular significance for health and safety at work is the greater involvement of the European Parliament in the process of implementing Article 118a through the cooperation procedure (Article 149(2) of the EEC Treaty).

This procedure is in practice as follows:

Initial proposal from the Commission

When the Commission has prepared a proposal for a directive (based on Article 118a, where it concerns the health and safety of workers), it transmits the proposal to the Council. The Council consults the Economic and Social Committee for its opinion, and also transmits the proposal to the European Parliament.

First reading by the European Parliament, and proposal altered by the Commission

The European Parliament undertakes its first examination of the text. Following this first reading, if the European Parliament adopts any amendments, the Commission alters its original proposal in respect of the amendments it accepts and presents the amended proposal to the Council (Article 149(3)). The Council also takes into account the opinion of the Economic and Social Committee.

The Council's common position

On the basis of the Commission's amended proposal, the Council, acting by a qualified majority, adopts a 'common position' (Article 149(2)(a)). This common position is then communicated to the European Parliament, along with the reasons which led the Council to adopt this position. The Commission also forwards its opinion on the Council's common position to Parliament (Article 149(2)(b)).

Second reading by the European Parliament

On the second reading, Parliament may within a period of three months approve the common position; or not take a decision: the Council definitively adopts the act according to the terms of its common position (Article 149(2)(b)). Acting by a majority of its component members, Parliament may also reject the common position; in that case, unanimity is required for the Council to act (Article 149 (2)(c)). Finally, and this is the most frequent case, Parliament, acting by a majority of its members, proposes amendments to the Council's common position (Article 149 (2)(c)).

Proposal re-examined by the Commission

When the Commission has received a number of amendments resulting from Parliament's second reading, it has one month to re-examine the proposal on which the Council has adopted its common position (Article 149(2)(d)). When it has been re-examined, the proposal is forwarded to the Council, along with the amendments which have been proposed by Parliament but not adopted. The Commission has to express its opinion on these amendments.

Final decision

The final decision is taken by the Council. It may adopt the Commission's re-examined proposal by a qualified majority, adopt Parliament's amendments which have been refused by the Commission, or amend the proposal, but in these two last cases unanimity is required (Article 149(2)(d) and (e)).

At all events, after it has received the Commission's re-examined proposal, the Council must reach a decision within three months; otherwise the re-examined proposal is deemed not to have been adopted (Article 149(2)(f)).

The 'qualified majority'

Under Article 148 of the EEC Treaty, a directive based on Article 118a is adopted by a qualified majority if there are 54 votes in favour according to the following weighting:

Belgium	5
Denmark	3
Germany	10
Greece	5
Spain	8
France	10
Ireland	3
Italy	10
Luxembourg	2
Netherlands	5
Portugal	5
United Kingdom	10

Article 118a of the EEC Treaty

1. Member States shall pay particular attention to encouraging improvements, especially in the working environment, as regards the health and safety of workers, and shall set as their objective the harmonization of conditions in this area, while maintaining the improvements made.

2. In order to help achieve the objective laid down in the first paragraph, the Council, acting by a qualified majority on a proposal from the Commission, in cooperation with the European Parliament and after consulting the Economic and Social Committee, shall adopt, by means of directives, minimum requirements for gradual implementation, having regard to the conditions and technical rules obtaining in each of the Member States.

   Such directives shall avoid imposing administrative, financial and legal constraints in a way which would hold back the creation and development of small and medium-sized undertakings.

3. The provisions adopted pursuant to this Article shall not prevent any Member State from maintaining or introducing more stringent measures for the protection of working conditions compatible with this Treaty.

Plenary session of the European Parliament.
The European Parliament is more involved under the cooperation procedure in the preparation of proposals for Directives

Photo: EEC

Safety and health at work against the background of the completion of the internal market

Article 118a of the EEC Treaty as amended by the Single European Act stipulates that the Council, acting by a qualified majority on a proposal from the Commission, and in cooperation with the European Parliament, can adopt directives in the field of the working environment and safety and health at work. The objective defined in this article is aimed at improving the working environment, to be achieved in particular by means of a gradual harmonization process.

However, the problem is that this text is open to at least three possible interpretations. Firstly, one could take the view that 'working environment' means worker protection in the narrowest sense. Secondly, the term 'working environment' could be understood to also cover 'working conditions' in the broadest sense, encompassing occupational accidents, industrial diseases and health protection at the workplace. Thirdly, and lastly, it could be assumed that 'working environment' embraces any working conditions which have an effect on the safety and health of workers, including working time, work organization and work content (nightwork, shiftwork and 'atypical' work).

Until now, the most restrictive interpretation has held sway in the Council, although Article 100a, paragraph 3, expressly links implementation in the field of safety and health with the completion of the internal market. So, it would seem that neither the Council, nor even the Commission, have the political will (as yet?) for really putting the much-vaunted social dimension into practice.

Seemingly, the Commission is still undecided about which Course to embark upon. The Commission communication on its action programme concerning safety, hygiene and health at work proceeds from the basis that Article 118a cannot be restricted to the safety and health of workers in the narrow sense, but must also include measures concerning ergonomics and those connected with the work environment. And yet, its proposal for a framework directive on the introduction of measures to encourage improvements in the safety and health of workers is, ultimately, confined to the workplace.

Right from the outset, the European Parliament has clearly opted for the widest possible interpretation of Article 118a. [1] By no means does this signify that the Parliament underestimates the importance of workers' health protection in the narrow sense. But it does take the view that ergonomic factors need to be taken into consideration when defining safety and health at the workplace. Ergonomics is concerned with the relationship between human beings and their working environment. That not only means the direct environment in which they work, or the machines and equipment they use, but also the work organization and the relations between workers. These last two factors have an influence — which should not be underestimated — on the safety and health of workers, as well as on the economy, society, culture and politics.

The Parliament considers it impossible for the term 'working environment' in paragraph 1 of Article 118a to be applied restrictively to safety and health in the narrow sense if the intention is that Article 118a should supplement Articles 117 and 118 with a view to the harmonious development of the Community social policy.

So the European Parliament will not be satisfied with directives in this area which do not define improvements in safety and health as an element of the social dimension in connection with the completion of the internal market.[2]

A great deal will depend on what steps the Commission takes next, and on whether the Council under its new Irish presidency[3] is willing to leave the way open for a broad definition of Article 118a. During private talks with Bertie Ahern, the President of the Social Affairs Council, he assured me that he is putting his support behind the broad interpretation of Article 118a and that he would shortly be including this subject on the agenda. If the Council does not fall in with this proposal, the Parliament will have to take the inevitable consequences. Relations between the Parliament, on the one hand, and the Commission and Council, on the other, are already strained following the unfavourable experience with the social charter.

A vote of no-confidence against the Commission seems a possibility. The Parliament may perhaps be left with no other alternative than to file a complaint with the European Court of Justice, which would at least force the Court to rule on the interpretation of Article 118a as well as on the legal bases of a European social policy.

Wim VAN VELZEN
Chairman of the Committee on Social Affairs, Employment and the Working Environment of the European Parliament

1 See the Salisch Report (EP 124.263 final).
2 See the Vittinghoff Report (EP 126.093 final) on the Commission proposal (COM(88) 73 final).
3 First half of 1990.

The constructive role of the Economic and Social Committee as regards safety and health at the workplace

The Economic and Social Committee has an impressive track record as regards European Community policies for improving safety and health at the workplace. It has been constructive in its support for Commission proposals and innovative in suggesting further improvements and in highlighting particular additional problems requiring the attention of the European Community. The debate within the Economic and Social Committee on such matters has always been lively. Resulting Opinions have by and large been achieved on the basis of a positive consensus, matched by a broad range of technical expertise.

The 1980 framework Directive on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work — together with the specific Directives thereafter proposed on lead, asbestos, noise, specified agents, benzene, carcinogens and biological agents — were all overwhelmingly endorsed by the Committee. It did so, emphasizing the need to rank prevention and safety measures, to standardize definitions and terminology, to set up effective and rigorous limit values, to promote the training and techniques necessary for preventing and detecting risks, and to ensure proper information and consultation of workers and their representatives.

In addition, during the same period, the Economic and Social Committee carried out some important 'own-initiative' work on safety and health at the workplace, in order to stimulate further reflection and especially more action at Community level.

The Committee's own-initiative study on 'health and environmental hazards arising from the use of asbestos', for example, was certainly effective in prodding the Commission to draw up specific measures to reduce the dangers of work or work-related exposure to this substance.

The Committee's own-initiative Opinion on 'occupational cancer' also made a significant contribution to Community activities, highlighting that if an agent or process is proved to be highly carcinogenic exposure should be proscribed, and in cases where exposure cannot be prevented its use should be banned.

Likewise, the Committee's own-initiative Opinion on 'occupational medicine' gave a clear message to Community decision-makers, calling for a Community Directive which would ensure provision of occupational health services for all workers, in all sectors and in all undertakings, whatever their size. It further urged that conditions governing the appointment, remunerations and dismissal of occupation health staff must guarantee their independence and autonomy of action, in accordance with ethical codes of practice applicable to the medical and scientific professions.

Directive 89/391/EEC on the introduction of measures to encourage improvements in the safety and health of workers was judged by the Economic and Social Committee to mark at least the first beginnings of occupational safety and health legislation of this sort at Community level, and as such was overwhelmingly endorsed. Similar support was given by the Committee for the five individual draft Directives that followed concerning minimum safety and health requirements for the workplace, the use of work equipment, personal protective equipment, handling of heavy loads, and display screen equipment. In all this, the Committee again made constructive comments and proposals to improve definitions, to ensure that all workers would be covered and to stress the crucial need for appropriate preventive services and the proper informing, consultation and training of workers in the safety and health field.

Altogether, the Economic and Social Committee is proud of its contribution on this vital subject, and eager to continue and press ahead with the other Community institutions in the same positive way.

John F. CARROLL
Chairman of the Section for Social, Family, Educational and Cultural Affairs of the Economic and Social Committee

CHAPTER 2

National and Community legislation

After a survey of current legislation on health and safety in the Member States of the European Community, the accent is laid on the impact of what by convention is termed the 'framework Directive'. The instrument in question is Directive 89/391/EEC, which aims at covering every aspect of the health and safety of workers.

It has given rise to the adoption of several special directives, relating to minimum requirements for health and safety at the workplace.

This chapter also deals with dangerous substances — chemical, biological and physical agents — which constitute hazards to the person of the worker in his or her working environment. The Community's strategy for controlling these agents is set out here.

An overview of current occupational health and safety legislation in the Member States of the European Community

The history of national legislation to protect the health and safety of people at work in Europe goes back well into the last century. In the Member States now making up the European Community, progressive improvements have been made since that time driven primarily by developing social policies. But of course, the pace of change and the general thrust of legislation has differed greatly from one Member State to another because of wide differences in the industrial base, the expectations of the population and the influence of social and political cultures within which the legal frameworks have developed.

With the establishment of the European Community and the development of policies of harmonization, it was only logical that the health and safety of workers should receive Community attention. A new and powerful force for closer harmony between the legal provisions of Member States emerged. Examination of what has been achieved since the European Community's first published action programme in the area of health and safety in 1978 has shown a progressive and very significant change from the former total dependence on the development of national provisions to a stage where now it is quite clear that the central role of the Community has found widespread acceptance.

A number of key developments have promoted the role of the Community, giving it wider powers to harmonize legislation of the Member States. These are principally the revision to the Treaty of Rome brought about by the introduction of the Single European Act, and the drive to complete the single market by 1992.

In a relatively short space of time, in the context of the development of health and safety law, the main emphasis has changed from national laws reflecting local initiatives to primary emphasis on the development and implementation of Community law. An illustration of this shift of emphasis is the United Kingdom Health and Safety Commission's recent statements that the European dimension will in future represent the 'overwhelming share' of its efforts in health and safety legislation, with domestic projects being pursued only where they are vital. Similarly, the principal aim of the new legislative frameworks currently being developed in Spain and Portugal is the implementation of the developing Community framework of law.

A major step forward in the Community programme came in 1989 with the adoption of a framework Directive (89/391/EEC) 'on the introduction of measures to encourage improvements in the safety and health of workers at work'. This provides a firm and broad-ranging base on which a series of more specific directives can be built to cover particular sectors of employment, for example, construction work, or particular subject areas of importance such as visual display units.

Whilst concern for manual workers in high-risk activities has continued, there is now increasing attention paid to the working environment of other groups of workers, such as clerical and administrative staff in the business, finance and public sectors, and workers in the service industries, health care, and social and public services. This change of focus can be seen in Member States, with the introduction of new legislation on the health and safety aspects of new technology, ergonomics and biological hazards such as legionnaires' disease, hepatitis B, and AIDS, in addition to the more traditional hazard areas. Community action is also in progress in some of these areas and all are within the scope of the framework Directive.

In the rest of this article we shall look in particular at the role and the significance of this work at Community level in the light of the central objective of ensuring equality of protection for all workers throughout the 12 Member States. The requirements for achieving the basic standards set by the new framework Directive are used as a basis for a critical review.

The following review shows how the law for the protection of the health and safety of workers in the Community is moving forward on a more even basis than would ever be possible on the basis of national legislation alone. Indeed, it is now generally agreed that the development of Community law in this field, along with the process of consultation necessary to achieve it, has resulted in a much firmer foundation on which to create higher standards that are consistent throughout the Community.

Approaches to legal controls in Member States

General

Despite the diverse historical, cultural and legal backgrounds of Member States, which have given rise to a number of notable differences in their approaches to the control of occupational health and safety, there is a common pattern in the legislative systems in which the following levels of control apply.

Firstly, in each of the Member States there is a basic framework of primary legislation establishing general principles and some specific requirements. This legislation generally creates the framework for more detailed and specific secondary legislation.

Next, secondary legislation, such as regulations, degrees, orders, etc., sets out detailed requirements for compliance based on general principles established in the primary legislation.

Finally, there are codes of practice and technical guidance which provide a third tier in some Member States. Whilst breaches of codes and guidelines are not generally offences, evidence of compliance or non-compliance may be used in legal proceedings.

Constitutional provisions

In Greece, Portugal, Italy and Luxembourg basic provisions relating to the control of health and safety at work are laid down in the national constitution. Similar basic occupational health and safety principles are also established elsewhere in national legal codes. These include the French labour and public health codes, the Netherlands civil code, the German industrial code, and the Spanish penal code.

In the remaining Member States there are no provisions in constitutional or national codes referring specifically to health and safety at work. But protection of all individuals, whether at work or not, is provided by the civil code in Belgium, and in Denmark, Ireland and the UK the civil or common law establishes a number of individual rights.

Principal statute

The extent to which legislation on health and safety at work has been brought together under a single comprehensive statute varies between Member States. Annex 1 outlines the range of approaches adopted.

Rights and duties of employers and employees

In each Member State, employers and employees have certain rights and obligations established in law relating to protection of health and safety at work. Employers' duties are summarized in Annex 2. Again these obligations and duties vary widely in their nature and detail but in most cases there is a general duty to provide safe and healthy working conditions.

Impact of the framework Directive

Scope of application

The framework Directive covers all sectors of activity, both public and private. The only workers excluded are the self-employed and domestic servants. Legislation in many of the Member States excludes some type of work, workers, or workplaces and will need to be extended to fully implement the Directive. The scope and key elements of the Directive are shown overleaf. The 'individual' Community directives in the future will have greater impact in practice because of the extensions required by the framework Directive. This will apply particularly to the non-industrial and public sectors.

At present the scope of the principal laws in each Member State, along with definitions of workplaces and workers illustrate differences both between Member States and between different laws within Member States.

Additional provisions will be required to include public service employees in Belgium, France, Ireland and Italy. In the Netherlands, however the second phase of the Working Environment Act was extended in 1985 to cover public employees.

In order to cover all work in family businesses, some modifications will be required in six of the Member States where currently some or all of this type of work is not covered. Similarly, extensions will be required in several Member States to cover homeworkers (who are employees as opposed to the self-employed), trainees and agricultural workers.

It is worth noting that existing legislation in a number of the Member States goes further in scope than the requirements of the framework Directive. In Ireland and the United Kingdom the self-employed are included, and legislation in Greece, the Netherlands and the United Kingdom affords protection to third parties who may be at risk from work activities.

Scope and key elements of the framework Directive

Scope:

The Directive covers all sectors of activity, both public and private, but excludes domestic servants.

Duty on employers to:

- ☐ ensure health and safety of workers in every aspect related to work;
- ☐ develop an overall health and safety policy;
- ☐ assess risks, update assessments with changing circumstances, and take preventative measures;
- ☐ record risks and accidents;
- ☐ inform workers and/or their representatives of risks and preventative measures taken;
- ☐ consult workers and/or their representatives on all health and safety matters;
- ☐ provide job-specific health and safety training;
- ☐ designate workers to carry out activities related to the prevention of occupational risks;
- ☐ carry out health surveillance of workers.

Workers' rights, responsibilities and duties:

- ☐ the right to make proposals relating to health and safety;
- ☐ the right to appeal to the competent authority;
- ☐ the right to stop work if in serious danger;
- ☐ the responsibility for their own actions;
- ☐ the duty to follow employers' instructions regarding health and safety;
- ☐ the duty to report potential dangers.

General duties of employers

The framework Directive requires all Member States to introduce fundamental changes to their legislation regarding the duties of employers. In future, employers will be required to take a more active standpoint on occupational health and safety, including the duty to be in possession of an assessment of the risks to safety and health at work, and to decide on protective measures to be taken in order to safeguard their workers.

But perhaps the most far-reaching change that the Directive brings is a requirement for employers to adapt work to the individual, especially regarding the design of workplaces, the choice of work equipment, working and protection methods, with a view to alleviating monotonous work and work at pre-determined work-rates. In this, the Directive goes further than legislation in probably all the Member States. This is clearly a key requirement which addresses the well-being of workers in a comprehensive way rather than focusing on specific hazards.

General provisions to take care of workers appear at first to vary between Member States. For example, in Belgium 'the diligence of a good father' is required, while in Ireland and the United Kingdom all reasonably practicable measures must be taken. But despite these and other general duties in Member States (see Annex 1), all Member States must modify or extend their legal controls to ensure compliance with the Directive.

Obligations on workers

Specific health and safety obligations are imposed on workers in all Member States but there is considerable variation between Member States. In some cases, workers must not carry out wilful or intentional acts likely to endanger themselves or others, nor must they damage or remove protective equipment. There are also duties for workers to take care of their own and others' health and safety, and to report incidents and defects to supervisors or employers.

Even so, the framework Directive will require changes in most Member States regarding both the responsibilities and rights of employees. Of particular importance is the duty imposed on workers to inform immediately both their employer and other workers with specific responsibility for the safety and health of workers, of any work situation they might reasonably consider represents a serious and immediate danger to safety and health.

Provision of information and training

A number of important and far-reaching requirements in the area of training and information are set out in the

framework Directive. Firstly, it extends the range of circumstances in which employers will be required to ensure that workers are provided with adequate job-specific training and information. Training and information must be provided on recruitment, transfer or change of job, the introduction of new work equipment and new technology. Training must also be adapted to take account of any new risks and be repeated at regular intervals if necessary.

An employer will also be required to ensure that sub-contractors and workers from outside undertakings, engaged in work at his or her undertaking receive appropriate instructions regarding health and safety risks. The main effect of the Directive will be the introduction of more job-specific training and information in the Member States.

Right to stop work

The framework Directive addresses this issue by stating that workers who, in the event of serious, imminent and unavoidable danger, leave their work station and/or a dangerous area may not be placed at any disadvantage because of their action and must be protected against any harmful and unjustified consequences, in accordance with national law and practice.

Employers must also ensure that all workers are able, in the event of serious and imminent danger to their own safety and/or that of other persons, and where the immediate superior responsible cannot be contacted, to take the appropriate steps, in the light of their knowledge and the technical means at their disposal, to avoid the consequences of such danger.

A number of workers' rights already exist in the law in Member States but these are limited. There is a right to stop work under specified circumstances in Belgium, Denmark, France, Germany, the Netherlands and Spain, but different criteria apply in each case. A worker in Belgium can stop work if his job entails a risk of which he was not informed. In France, it is accepted in practice that where any worker has a reason to believe that his working conditions pose a grave and imminent danger to his life or health he may, provided that the employer is informed immediately, withdraw from these conditions. Similarly in the Netherlands, an employee can stop work if he has reason to believe that there is danger. He is also obliged to report this immediately. Any worker in Germany can stop work if the premises are contaminated by carcinogens, and the level in the atmosphere cannot be adequately lowered.

Again, it appears that a number of Member States will need to bring in more specific provisions in line with the Directive to give the right to the worker to remove himself from imminent and serious danger. It would of course be hoped that even without this right in law the worker would not be disadvantaged from taking action in the case of serious personal danger.

Fire in a paper mill. Employers must assess the risks to workers' health and safety, while workers must draw attention to any situation representing a serious and immediate danger.

Photo: Belga

Workplace organization on health and safety

Workplace committees

The field of health and safety at work is notable for the high level of consultation which takes place between interested parties in the development and implementation of policy. The setting for consultation is often the workplace committee.

The role of workplace committees is not addressed by the framework Directive, but it does place a duty on employers to consult workers and/or their representatives and to allow them to take part in discussions on all questions relating to safety and health at work. This duty, extended by specific directives, may well result in broad changes to consultation and participation procedures in all Member States. In many cases the best way of handling the requirement to consult is through a health and safety committee.

The Directive extends the right to workers and/or their representatives to make proposals on health and safety and be consulted in advance on a number of issues. These include any measures which may substantially affect safety and health, and information on risk assessment and training. In addition, workers' representatives with specific responsibility for health and safety must be allowed adequate time off work without loss of pay and they must be given the opportunity to submit their observations during inspection visits by the competent authority.

Already in Member States there are a range of provisions which go some way towards implementing these requirements of the Directive. Three distinct approaches to workplace organization can be identified.

In Germany, Luxembourg, Italy and the Netherlands, workers' councils elected by employees have various functions and rights relating to health and safety. These include rights to approve or reject measures proposed by the employer, assist in planning, monitor compliance with the legislation, be informed of relevant information, and to accompany inspectors on visits and consult with them.

In Belgium a special committee must be established to act as a forum for consultation between the employer and employee in all undertakings with more than 50 employees. Similarly, health and safety committees must be set up in all establishments which employ over 50 people in France and Portugal. In Spain committees are compulsory for certain companies, depending on number of employees and nature of risk.

The third approach is followed by Denmark and the United Kingdom where safety representatives must be elected by workers. Representatives become members of safety committees and are entitled to be informed of all relevant information and to consult the relevant inspectorates.

It would appear that in this area the impact of the framework Directive will be most significant in Spain, Greece and Ireland where the same level of statutory provision for consultation does not exist.

Environmental Resources Limited (ERL)

Annex 1

Principal health and safety statutes

Framework laws

Denmark	The Working Environment Act, 1975
Greece	Health and Safety of Workers Act, 1985
Ireland	The Safety, Health and Welfare at Work Act, 1989
Luxembourg	The Law on Health and Safety of Workers, 1924
The Netherlands	The Working Environment Act, 1980
United Kingdom	The Health and Safety at Work Act, 1974

Codified laws

Belgium	The General Regulations for the Protection of Labour (includes the 1952 law on health and safety of workers and cleanliness of work and workplaces, and law on work contracts 1978)
France	The Labour Code (includes the 1913 decree on health and safety at work and the 1976 law on prevention of accidents at work)

Fragmented

Federal Republic of Germany	There is no one principal statute governing occupational health and safety. Provisions are found in various codes, acts, orders and rules arising from federal and *Länder* authorities and accident insurance associations (Berufsgenossenschaften)
Spain	The main laws which deal specifically with health and safety at work are the Order to approve the general occupational safety and health ordinance, 1971, the General law on social security, 1974, and the law on workplaces
Italy	Whilst the constitution, civil code and penal code contain provisions for the protection of health and safety at work, the principal items of legislation on occupational health and safety is Law No 833, 1978 and the Presidential Decree of 1955 on health and safety
Portugal	No framework legislation, but legislation based on the 'General regulations of occupational safety and hygiene in industrial establishments 1966' and the 'General regulations of health and safety in commercial establishments, offices and service industries'

Annex 2

Summary of general duties of employers to protect employees

Belgium	To ensure 'with the diligence of a good father' that work takes place in suitable conditions for health and safety, and to observe the requirements of the law.
Denmark	To ensure by supervision that work is performed safety and without risks to health, and to ensure that requirements of the law are observed.
Federal Republic of Germany	To organize undertakings (with regard to design and working methods) in such a way as to afford employees all such protection against hazards to health and safety as the nature of the undertaking permits; and to observe requirements laid down in the law and in occupational insurance regulations; taking into account commonly accepted, up-to-date technical standards, the current state of knowledge of occupational medicine and the result of scientific labour studies, provided that disproportionate hardship does not arise.
Greece	To ensure the life, health and welfare of employees (by providing proper means and ensuring satisfactory conditions and working methods) so far as the nature of the workplace permits; to make all necessary arrangements for the welfare of employees.
Spain	No general duties on employers.
France	To maintain and manage premises in a state of cleanliness necessary for the health of workers and in such a way as to guarantee their safety; to ensure equipment is installed and maintained in the safest possible way; and to observe the requirements of occupational insurance regulations.
Ireland	To take all practicable measures to protect employees against inhalation of dangerous substances and to observe the requirements laid down in the law.
Italy	To take measures necessary in relation to the type of work and the state of technology to protect the physical and mental welfare of employees, and to implement measures required by the law.
Luxembourg	To observe the requirements of the law and of occupational insurance regulations.
The Netherlands	To ensure the greatest possible degree of health and safety protection and to promote the greatest possible attention to welfare in the light of the best existing principles of technology and the current state of occupational health care, ergonomics and industrial sociology, unless this cannot reasonably be required.
Portugal	To take measures necessary to protect the health and safety of workers.
United Kingdom	To ensure so far as reasonably practicable, the health, safety and welfare of all employees.

Council Directive 89/391/EEC concerning the introduction of measures to encourage improvements in the safety and health of workers at work, aimed at comprehensive coverage of workers' health and safety

This Directive lays down minimum requirements in respect of health and safety at work, which the Member States may in no case fail to satisfy by 31 December 1992.

Very wide scope

The Directive applies to all sectors of activity, public and private. Certain specific public service activities, such as the armed forces, police or civil defence, are excluded when special conditions inherent in these activities are necessarily incompatible with the provisions of the Directive.

The content of the Directive — added value for the Community

There are three important facts which should be emphasized:

- This Directive is not intended to conflict with national or Community measures, present or future, which may afford even greater protection for health and safety at work.
- The Directive defines the obligations of employers systematically, and also imposes an obligation on workers to collaborate in taking the necessary measures.
- Finally, the Directive imposes an obligation on employers to inform workers of the risks to their health and safety in the workplace and of measures proposed to reduce or do away with these risks. They must be able to deal with all related questions through a mechanism of 'balanced participation' in accordance with national legislation and practice.

The responsibilities and obligations of the employer — to ensure the workers' health and safety

Employers are obliged to ensure the health and safety of workers in all aspects of work. The principle underlying this responsibility is not affected in any way by any of the obligations imposed on workers, nor by the actions of any external protection service or prevention agency. The employer's responsibility may only be waived or diminished in case of *force majeure*, as defined in the Directive.

The general principle of prevention — to take all necessary measures

The employer's obligations are systematically set out and defined. In order to ensure the health and safety of workers, employers must take 'all necessary measures', including the development of prevention, information and training activities. In so doing, employers must follow general principles, namely avoiding risks, evaluating them and combating them at source, adapting the work to the worker, in particular as regards the design of workstations, working methods; and choice of equipment.

Furthermore, there is another, certainly more innovative principle: employers must take adequate measures to adapt work methods, with the aim of alleviating those aspects which are monotonous or repetitive.

The right to cease work in dangerous situations

Among the basic obligations is the duty of employers to inform those exposed to a potentially serious, direct risk about the measures for their protection. (This is in addition to first aid, fire-fighting and evacuation measures.) In particular, employers must provide instructions enabling workers to cease their activity and ensure their safety by leaving the workplace immediately.

Cooperation between employers

Employers must cooperate in the implementation of health and safety measures and coordinate their measures for prevention of occupational hazards, when workers from several firms are working at the same site. Employers must inform each other, and their respective workers, of the various risks.

Prevention services — graded according to the size of the enterprise

In organizing prevention services, employers have the option of either appointing workers to undertake this task or, if the company does not have the necessary skills, calling on outside expertise.

The Directive imposes other obligations: employers must keep a register of accidents causing incapacity to work, and must draw up reports of such accidents, in accordance with national legislation.

Workers' rights and obligations — to become efficient agents of prevention

The Directive specifies that each worker must take care of his or her own health and safety, as well as that of other per-

sons affected by his/her acts or omissions. For example, workers must use machines, equipment and tools correctly; they must use the personal protection equipment issued to them; they must not move, modify or render inoperative the existing safety devices, and so on. Further, they must immediately report to the employer (and to workers with specific responsibilities as regards health and safety within the enterprise) any work situations which they think represent a serious, direct danger.

They must receive suitable health and safety training. In particular, they must receive appropriate information and instructions when they are taken on, or when they are assigned to another post or a different function, or when a new item of equipment is introduced.

Information, consultation, participation — for greater efficiency

Information, whatever its substance, must be provided to workers whenever it contains anything relating to their health and safety.

Deadline: 31 December 1992

The final provision requires Member States to introduce the laws, regulations, and administrative provisions necessary to comply with the Directive by 31 December 1992 at the latest. They must report to the Commission on the practical implementation every five years, indicating the viewpoints of both sides of industry on the measures which have been taken.

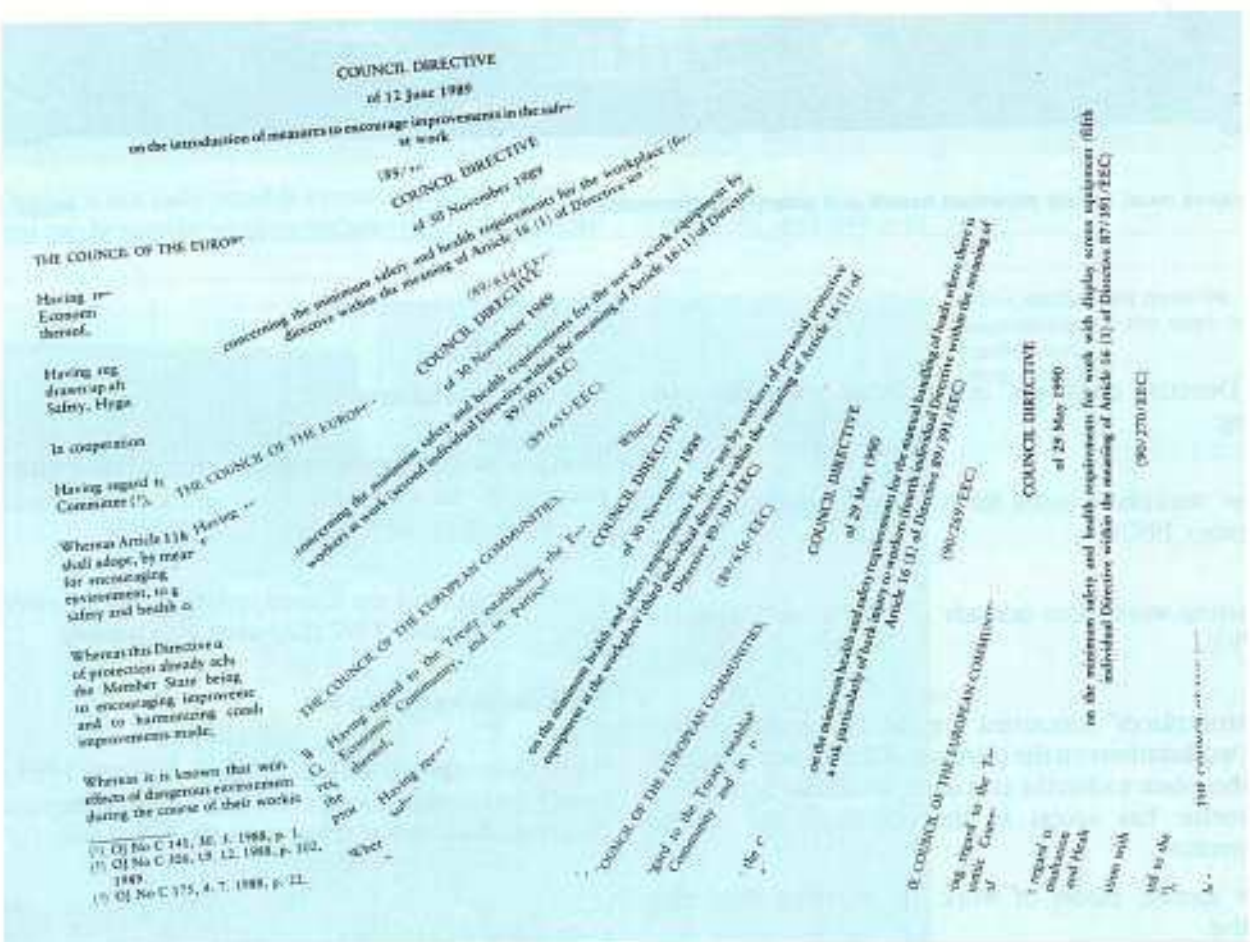
Worker using solvents.
Although regard is still had to manual workers performing high-risk activities, the framework Directive devotes increasing attention to other areas, notably services.

Photo: INRS

The first five individual Directives

Following on from the framework Directive 89/391/EEC, five individual Directives have been adopted by the Council. These Directives lay down minimum safety and health requirements for:

- ☐ the workplace,
- ☐ the use of work equipment,
- ☐ the use of personal protective equipment,
- ☐ the manual handling of loads,
- ☐ work with display screen equipment.



The first individual Directive: workplaces

Council Directive 89/654/EEC of 30 November 1989 concerning the minimum safety and health requirements for the workplace[1]

Workplaces must satisfy minimum health and safety requirements. *Photo: Bulloz*

This Directive comprises in particular provisions concerning:

- ☐ new workplaces (used for the first time after 31 December 1992);
- ☐ existing workplaces (already in use before 1 January 1993).

The 'workplaces' concerned are the places intended to house workstations on the premises of the undertaking and any other place within the area of the undertaking to which the worker has access in the course of his or her employment.

A few specific places of work are excluded from this Directive.

The 'new' workplaces

Workplaces used for the first time after 31 December 1992 must satisfy the minimum safety and health requirements laid down in the Directive.

Where workplaces are altered, extended and/or converted after 31 December 1992 they must also comply.

Workplaces already in use

Workplaces already in use before 1 January 1993 must satisfy the minimum safety and health requirements of the Directive at the latest three years after that date.

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1 OJ L 393, 30.12.1989, p. 1.

The second individual Directive: work equipment

Council Directive 89/655/EEC of 30 November 1989 concerning the minimum safety and health requirements for the use of work equipment by workers at work[1]

In brief:

- ☐ work equipment concerns any machine, apparatus, tool or installation used at work;
- ☐ the work equipment must be appropriate for the work to be carried out and not pose any hazard to the health and safety of the worker;
- ☐ making a good choice and using the work equipment properly are therefore essential.

Some important general obligations

- ☐ The work equipment made available to workers must be suitable for the work to be carried out or properly adapted for that purpose and may be used by workers without impairment to their safety or health.
- ☐ In selecting the work equipment, attention must be paid to the specific working conditions and characteristics, and to the hazards which exist at the work station for the safety and health of the workers, and/or any additional hazards posed by the use of the work equipment in question.
- ☐ Where it is not fully possible to ensure that work equipment can be used by workers without risk to their safety or health, the appropriate measures must be taken to minimize risks.
- ☐ It must be ensured that, by means of adequate maintenance, the work equipment retains the required level of safety throughout its working life.

'New' equipment

Work equipment which is provided to workers in the undertaking and/or establishment for the first time after 31 December 1992, must comply with:

- ☐ the provisions of any relevant Community directive which is applicable;
- ☐ the minimum requirements laid down in this Directive, to the extent that no other Community directive is applicable or is so only partially.

Equipment already in use

Work equipment which has already been provided to workers by 31 December 1992 must comply with the minimum requirements no later than four years after that date.

1 OJ L 393, 30.12.1989, p. 13.

Work equipment must be appropriate for the work to be carried out.
Photo: INRS

The third individual Directive: personal protective equipment

Council Directive 89/656/EEC of 30 November 1989 concerning the minimum safety and health requirements for the use by workers of personal protective equipment at the workplace[1]

Personal protective equipment means all equipment designed to be worn or held by the worker to protect him or her against one or more hazards likely to endanger his or her safety or health at work, and any addition or accessory designed to meet this objective.

How to make the right choice

- ☐ Before choosing personal protective equipment, the employer is required to assess the personal protective equipment he or she intends to use.
- ☐ The assessment must be reviewed if any changes are made to any of its elements.

A good item of work equipment must ...

- ☐ comply with the relevant Community provisions on design and manufacture with respect to safety and health.

Rules on use

The Member States must consult the employers' and workers' organizations in advance concerning the rules on use.

Employers

Employers must see to it that they choose good personal protective equipment and adhere to the following provisions:

- ☐ the conditions of use of personal protective equipment, in particular the period for which it is worn, are determined on the basis of the seriousness of the risk, the frequency of exposure to the risk, the characteristics of the work station of each worker and the performance of the personal protective equipment;
- ☐ the personal protective equipment must, in principle, be provided free of charge by the employer, who must also ensure its good working order and satisfactory hygienic condition by means of the necessary maintenance, repair and replacements.

A very important addition

The Commission has published a communication[2] in which its requests that the Member States ensure, by the methode they judge most appropriate, the widespread circulation of the data contained in this communication, so that these data may serve as reference documents during implementation of Council Directive 89/656/EEC on the use by workers of personal protective equipment.

1 OJ L 393, 30.12.1989, p. 18.

2 Commission communication for the implementation of Council Directive 89/656/EEC of 30 November 1989, concerning the assessment of the safety aspects of personal protective equipment with a view to the choice and use thereof.

The right personal protective equipment protects the worker against hazards.
Photo: INRS

The fourth individual Directive: manual handling of loads

Council Directive 90/269/EEC of 29 May 1990 on the minimum health and safety requirements for the manual handling of loads where there is a risk, particularly of back injury, to workers[1]

This Directive considers 'handling' to mean any operation to transport or support a load, by one or more workers, whereby the lifting, placement, pushing, pulling, carrying or moving involves a risk, particularly of back injury, for the workers.

What load may present a risk?

Load:

- ☐ too heavy and/or too large;
- ☐ unwieldy and/or difficult to grasp;
- ☐ unbalanced, unstable or has contents likely to shift;
- ☐ located in a position requiring to be held or manipulated at a distance from the trunk, or with the trunk in a stooped or twisted posture;
- ☐ owing to its external characteristics and/or its composition, likely to cause injuries to the worker, particularly as the result of a knock.

Organization of work stations

It is necessary to:

- ☐ assess, if possible in advance, the safety and health conditions for the type of work concerned, particularly taking into account the characteristics of the load;
- ☐ take appropriate measures to avoid or reduce the risks, particularly that of back injury, for the worker, having regard in particular to the characteristics of the work environment and the requirements of the activity, and taking into account the measures set out in the Directive.

1 OJ L 156, 21.6.1990, p. 9.

We must prevent or reduce the risk, particularly of back injury, to workers.
Photo: INRS

The fifth individual Directive: work with display screen equipment

Council Directive of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment (90/270/EEC) [1]

Display screen equipment (DSE) comprises an alphanumeric or graphic screen, regardless of the display process employed;

A *work station* is the assembly comprising a display screen equipped, where appropriate, with a keyboard or data capture medium, optional accessories, peripherals including the diskette drive, telephone, modem, and/or software determining the operator/machine interface, printer, document holder, chair and table or work surface, and the immediate work environment.

Analysis of the work station

Employers are obliged to perform an analysis of work stations in order to evaluate the safety and health conditions which they present for their workers and to take appropriate measures to remedy the risks found.

'New' DSE work stations

Work stations put into service for the first time after 31 December 1992 must satisfy the minimum safety and health requirements laid down in the Directive.

DSE work stations already in service

Work stations already put into service by 31 December 1992 must be adapted to satisfy the minimum safety and health requirements laid down in the Annex to the Directive at the latest four years after that date.

Organization of the day's work

The workers' activity must be organized in such a way that the daily working time on a DSE includes regular breaks or changes in activity to reduce the amount of work involving the DSE.

Work with DSEs must include regular breaks or changes in activity.

Photo: INRS

[1] OJ L 156, 21.6.1990, p.14.

The complementary nature of Community legislation on the basis of Articles 100a and 118a

The protection of working conditions is taken into account in the EEC Treaty from two points of view: one relating to the free movement of goods and the other to social policy.

The free movement of goods, together with the free movement of persons, services and capital, forms one of the four fundamental freedoms defined by Article 8a as the basis of the internal market ('area without internal frontiers').

Article 100a supplies the instrument for achieving three of these four freedoms, including that relating to goods. Community regulations adopted on the basis of this Article are aimed at establishing essential requirements for the protection of collective interests — such as the protection of workers' safety — to be satisfied when products are manufactured and placed on the market.

In view of the fact that the free movement of products must be guaranteed, the regulations adopted on the basis of Article 100a have to set maximum protection values because the public authorities are no longer authorized to require a higher level of protection, which would undermine the very principle of free movement. With the intention of compensating, as it were, for the loss of this right by the Member States, paragraph 3 of the same Article provides that the Community regulations must take as a base a 'high level of protection'.

And yet, an examination of the provisions of the Treaty in Title Three on social policy, and in particular those of Article 118a, reveals a completely different principle. For the Community regulations on improving working conditions adopted under the terms of this Article constitute a common minimum of worker protection, leaving each Member State at liberty to develop its own national laws which establish a higher level of protection and more stringent requirements, for example, in the area of safety protection.

So, how is it possible to reconcile these two apparently contradictory approaches when it comes to adopting legislation on a particular subject? The answer is to be found in the Community secondary legislation, which distinguishes between, on the one hand, the social objectives which can be incorporated in product design and manufacture and, on the other hand, those objectives which concern only the conditions of use of these same products.

Let us now consider a specific example. A Directive based on Article 100a sets the maximum sound level which can be produced by a certain type of machine (and no Member State will be able to require a lower level). A Directive based on Article 118a establishes that a worker must not be exposed to a noise level produced by this same type of machine for more than a certain length of time, the Member States remaining at liberty to set even shorter time-limits in their legislation.

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Testing helmets for resistance. Incorporating safety in product design and manufacture.

Photo: INRS

Two practical examples of such complementarity

In 1989 the Council adopted two Directives under Article 100a which affect workers' safety and health:

- *the Council Directive (89/392/EEC) of 14 June 1989 on the approximation of the laws of the Member States relating to machinery;*[1]
- *the Council Directive (89/686/EEC) of 21 December 1989 on the approximation of the laws of the Member States relating to personal protective equipment.*[2]

'Machinery': Incorporating safety from the design stage onwards

In the case of the 'machinery' Directive, a high level of safety is enshrined in the principle of incorporating safety into machine design and manufacture. When choosing the most appropriate solutions, the manufacturer must apply the following principles, in the following order:

- eliminate or reduce risks as far as possible;
- take the necessary protective measures against risks that cannot be eliminated;
- inform users of the residual risks due to any shortcomings in the protective measures adopted, indicate whether any particular training is required and specify any need to provide personal protective equipment.

These principles must be applied during the machine's entire lifetime, including handling, assembly, maintenance, repair and dismantling, and even in foreseeable abnormal situations. The manufacturer must also take into account the conditions of use and the constraints imposed by wearing personal protective equipment so as to minimize the operator's discomfort, fatigue and stress.

The 'machinery' Directive covers a very wide range of fixed machines, from the simplest to the most complex. It goes without saying that the potential risks to which workers are exposed vary according to the type of machine concerned. This aspect is taken into account in the certification procedure established by the 'machinery' Directive. In general, the procedure to be applied is 'self-certification', in other words, the manufacturer certifies that his machine satisfies the essential health and safety requirements.

Machines regarded as particularly dangerous, on the other hand, have to undergo an 'EC type-examination'. Included in this category are machines for working wood and meat, presses for the cold working of metals with manual loading and/or unloading, plastics-moulding and rubber-moulding machines, and cartridge-operated fixing guns.

1 OJ L 183, 20.6.1989, p. 9.
2 OJ L 399, 30.12.1989, p. 18.

The 'machinery' Directive covers a very wide range of fixed machinery, from the simplest to the most complex.
Photo: INRS

'Personal protective equipment': A more complex system of certification

A particular feature of the Directive on the design and manufacture of personal protective equipment is a more complex certification system than in the 'machinery' Directive. Self-certification is only permitted for personal protective equipment of very simple design, e.g. gardening and household gloves. Generally speaking, an EC type-examination by a notified body is required before personal protective equipment can be placed on the market.

Strictly binding obligations apply to personal protective equipment designed to protect against mortal hazards or hazards which could cause serious and irreversible damage to health, whose immediate effects the user could not detect in time.

In addition to the EC type-examination, the manufacturer must also set up an 'EC' quality system for the final product, comprising final inspection of the personal protective equipment and regular testing and inspections by a notified body.

The free movement of goods and safety at work are not mutually exclusive

The completion of the internal market is not incompatible with the continual quest to improve safety conditions at work, which is a priority concern of the Community.

What is an 'EC type-examination'? Before goods go into mass production, a model is referred to an approved body which checks that it satisfies the essential requirements of the Directives.

Photo: EEC

The role of the European Trade Union Technical Bureau for Health and Safety

At the end of 1988, the European Trade Union Confederation (ETUC) founded an international association under Belgian law, the European Trade Union Technical Bureau for Health and Safety.

In connection with the development of Community policies in the field of health and safety at the workplace, and on the basis of Articles 118a and 100a of the Treaty, the Confederation felt it was necessary to increase its technical and personnel resources with the aim of promoting a high level of health and safety in Europe.

Of particular importance, against this background, are the Council decisions by which CEN/Cenelec (an independent European body) was given the task of drafting harmonized standards on the basis of Article 100a concerning the free movement of work equipment.

The provisions of these standards are intended to give concrete form to the essential safety requirements adopted by the Council in its directives.

The trade unions representing the users of work equipment are directly concerned by the users' health and safety being taken into consideration in the design of the equipment. The trade unions have also to ensure that the content of the standards clearly complies with these essential safety requirements.

The task of the Technical Bureau is therefore to provide studies and information for the ETUC as part of its activities concerning workers' health and safety, and more particularly those concerning the European laws and standards in these areas.

In carrying out its work, the European Trade Union Technical Bureau cooperates with the ETUC, the European industry committees approved by the ETUC, as well as with the workers' group of the Advisory Committee on Safety, Hygiene and Health Protection at Work.

Its work priorities are currently:

- ☐ to set up an information system on the work of the Community, EFTA and CEN/Cenelec;
- ☐ to provide technical back-up for the workers' representatives participating in standardization work;
- ☐ together with these representatives, to create a European network of trade union experts.

During the budget debate in 1989, the European Parliament supported the founding of the Trade Union Technical Bureau by including a budget heading for this purpose. A multiannual agreement with the Commission was signed in 1989.

The Council of Ministers of the EFTA countries, which also issue briefs to CEN/Cenelec for drawing up harmonized standards, has also contributed finance.

Marc SAPIR
Director of the European Trade Union Technical Bureau for Health and Safety

The control of chemical, biological and physical agents at the place of work

The protection of workers against dangerous substances is particularly important in view of the many effects on the individual caused by exposure to harmful chemical, biological and physical agents at the place of work.

The first framework Directive in 1980

Council Directive 80/1107/EEC of 27 November 1980 on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work[1]

The two main objectives are:

- ☐ to prevent or limit the exposure of workers to chemical, physical and biological agents at the place of work; and
- ☐ to protect workers who are likely to be exposed to such agents.

The Directive foresees short- and long-term measures, and also provides for the adoption by the Council of individual directives on certain agents.

The short-term measures require the Member States to provide appropriate information for workers and/or their representatives on the dangers to health presented by asbestos, arsenic, cadmium, mercury and lead, and to ensure appropriate surveillance of the state of health of workers exposed to asbestos and lead.

The long-term measures must be taken when the Member States adopt provisions on harmful agents, in order that the exposure of workers be avoided or kept at a low level. With a view to attaining this objective, the Member States must comply with a series of 14 measures, including the following:

- ☐ limitation of the use of the agent at the place of work;
- ☐ limitation of the number of workers exposed;
- ☐ technical preventive measures;
- ☐ establishment of limit values and of sampling procedures, measuring procedures and procedures for evaluating results;
- ☐ collective and individual protection measures, where exposure cannot be avoided by other means, as well as hygiene measures;
- ☐ emergency measures for abnormal exposures;
- ☐ information for workers;
- ☐ surveillance of the health of workers.

1 OJ L 327, 3. 12. 1980, p. 8.

An overall strategy for combating chemical, biological and physical agents.

EEC

An example of the plastics industry.
The advent of a rare form of liver cancer among workers in other sectors of the plastics industry led to the adoption in 1978 of the first Directive concerning chemical agents.

Photo: INRS

This Directive paved the way for the subsequent adoption by the Council of some individual Directives of crucial importance for the protection of workers, namely those on lead, asbestos and noise, and not forgetting the Directive banning the production and use of four aromatic amines.

This approach was developed subsequently, which led to the introduction of three benchmarks for chemical substances: the establishment of limit values for chemical substances, specific measures for a number of substances such as carcinogens and bans on a few substances and/or activities.

Chemical agents: from vinyl chloride monomer to carcinogenic agents

Vinyl chloride monomer

Council Directive 78/610/EEC of 29 June 1978 on the approximation of the laws, regulations and administrative provisions of the Member States on the protection of the health of workers exposed to vinyl chloride monomer[1]

The Directive which was adopted in June 1978 and which has now been incorporated into Member States' legislation, is the first to deal with the control of worker exposure to a chemical carcinogen. It covers all workers employed in works in which vinyl chloride monomer is produced, reclaimed, stored, discharged into containers, transported or used in any way whatsoever, or in which vinyl chloride monomer is converted into vinyl chloride polymers. It contains the following main provisions:

- ☐ establishment of atmospheric limit values and the fixing of provisions for monitoring,

1 OJ L 197, 22. 7. 1978, p. 12.

- ☐ technical preventive measures,
- ☐ information of workers,
- ☐ keeping a register of exposed workers,
- ☐ guidelines regarding medical surveillance,
- ☐ personal protection measures,
- ☐ medical examination.

A technical long-term (one year) limit value of 3 ppm has been established, with equivalent limit values for shorter periods of time.

This Directive was an important step towards the development of an overall policy on dangerous chemical agents.

Lead: A potential health risk for a large number of workers

Council Directive 82/605/EEC of 28 July 1982 on the protection of workers from the risks related to exposure to metallic lead and its ionic compounds at work[1]

Metallic lead and its ionic compounds are toxic substances found in many work situations and a large number of workers are therefore exposed to a potential health risk. National laws have, as a consequence, already been introduced for their protection. However, the need for harmonization prompted the Commission to propose, and the Council to adopt, this Directive.

Without going into detail, it is worth noting that this Directive lays down, in particular, measures on periodic lead-in-air monitoring, biological monitoring and clinical assessments of the workers exposed, as well as exposure limit values.

In an Annex to the Directive, it was considered appropriate to give a non-exhaustive list of the activities where there is reason to consider that there may be a risk of absorbing lead.

Finally, special attention is paid to aspects concerning the information to which all workers should have access in normal working conditions as well as during emergency situations.

1 OJ L 247, 23. 8. 1982, p. 12.

The Directive provides for periodic lead-in-air monitoring.

Photo: EEC-Curtis

Asbestos: Major risks of developing cancer

Council Directive 83/477/EEC of 19 September 1983 on the protection of workers from the risks related to exposure to asbestos at work[1]

There is a relationship between exposure to the different types of asbestos and the incidence of lung cancer, mesotheliomas and other cancers of the gastro-intestinal system.

Asbestos is used in many industrial sectors because of its physical and chemical properties. The Directive therefore seeks, in the first place, to encourage the replacement of asbestos with less-dangerous substitutes which achieve the same results.

Particular attention has been paid to the exposure limit values:

- 0.50 fibres per cm^3 for crocidolite (blue asbestos); and
- 1.00 fibres per cm^3 for asbestos fibres other than crocidolite.

These values are measured or calculated in relation to an eight-hour reference period.

The Directive stipulates that certain measures are inapplicable where the concentration of asbestos fibres in the air does not exceed a quarter of the limit value.

The reference method used to measure the amount of asbestos in the air at the place of work is described, indicating a procedure for sampling and analysis.

The Directive contains provisions concerning:

- a notification system, administered by the responsible authority of the Member State, where asbestos fibres are used in industry;
- the ban on the application of asbestos by means of spraying (flocking and painting);
- the precautions to be taken to avoid the release of asbestos fibres into the air;
- the conditions under which asbestos can be handled and transported;
- the removal of asbestos contained in existing buildings, structures, plant or installations, and the demolition thereof.

Finally, the Commission has recently proposed an amendment to this Directive to reduce, in particular, the exposure limit values.

1 OJ L 263, 24. 9. 1983, p. 25.

The Directive seeks to encourage the removal of asbestos from buildings.

Photo: ISO Press

The establishment of occupational exposure limit values: to limit the contamination of the air at the workplace

Council Directive 88/642/EEC of 16 December 1988 amending Directive 80/1107/EEC on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work[1]

In the case of harmful agents, the first aim must always be to avoid exposure if this is possible. Where exposure cannot be avoided altogether, measures are needed to limit exposure. The employer can assess the adequacy of his or her control arrangements by an assessment in relation to a limit value.

Why limit values?

In recent years, there has been a growing awareness of the health risks related to contamination of the air in the working environment. This has encouraged action, both of a legislative and of a voluntary nature, aimed at limiting the contamination caused by harmful agents. A major consideration is always to limit the air concentration to a level considered to be safe for the health of the workers exposed.

Limit values, also called occupational exposure limits (OEL) are most commonly set in relation to an eight-hour working day. Short-term exposure limits (STEL), are recommended where adverse effects arising from high short-term exposures necessitate closer control of peak exposure than provided for by the eight-hour limit.

The control of risks by the application of occupational exposure limits assumes that the major route for the absorption of toxic substances is by inhalation, which is particularly the case for gases, vapours, dusts and mists.

However, some chemicals, for example, some solvents and pesticides, especially those in liquid form, can be absorbed through the skin and for some this may result in a greater intake by the body than would take place by inhalation of the same material.

For these substances the protection needs to go further by the avoidance of skin contact and/or the use of protective equipment such as gloves.

Finally, the uptake of a foreign chemical can often be assessed by measuring the chemical or its breakdown products in blood, urine or exhaled air. The process involved in assessing uptake in this way is usually known as biological monitoring, e.g. lead in blood, for which limits can also be set.

How are limit values set?

The Community has for many years been aware of its responsibilities for encouraging improvements. Many of the requirements referred to are included in the overall

[1] OJ L 356, 24. 12. 1988, p. 74.

Stages in the procedure for defining limit values.

strategy for the control of toxic substances at work as laid down in Council Directive 80/1107/EEC of 27 November 1980 on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work,[1] as amended by Directive 88/642/EEC.

In general the limits are of an indicative nature and the requirement is that Member States need to take them into account in setting their own limit values. For these a streamlined legal procedure is laid down in the above-mentioned Directives.

It has already become clear that a number of key principles concerning the setting of OELs need to be discussed in some detail at an early stage; these include for example the control of upward excursions from the average eight-hour time-weighted exposure for shorter term exposure.

When it comes to establishing the final limit value, scientific and medical judgment must be used in defining the criteria to be applied. The limit value may be set at a certain level to prevent illness, to protect the majority of workers from adverse effects, to prevent the earliest demonstrable change from normal behaviour, to prevent nuisance, or at a level which is technically feasible. The safety factor generally included in all established exposure limits may differ as different groups endeavour to set a level which gives the best practical protection for workers, as well as the methods used for determining the concentration of these substances and for monitoring the working environment.

Carcinogenic agents in the workplace — a serious problem in industrialized countries

Council Directive 90/394/EEC of 29 June 1990 on the protection of workers from the risks related to exposure to carcinogens at work[2]

Occupational cancer is considered as a serious problem in industrialized countries. In order to tackle the problem of worker protection against exposure to carcinogenic agents in greater depth, the Commission's intention has been to depart from Directives on individual agents such as asbestos and it has now prepared a more general Directive.

Much time has elapsed since perspicacious observers first noticed links between certain types of cancer and the working conditions of those affected.

The role played by soot in cancer among chimney sweeps was identified in 1775. *Photo: Roger-Viollet*

One of the first such observations was made by Paracelsus (1531), who described a pulmonary ailment which cut off the miners of Scheeberg in their prime. However, it was not until 1775 that the first study of occupational cancer was produced.

At this time, Percival Pott drew attention to the causal link between soot and the cancer of the scrotum which affected chimney sweeps. His observation was confirmed a century and a half later, in 1915, by the Japanese researchers Jamigiwa and Ichikawa, who induced malignant cancers in the ears of rabbits which were regularly tarred.

One of the major changes introduced by twentieth century medicine is to determine the effect of lifestyle and environmental conditions, including the workplace, on the incidence of cancer, and various studies have been carried out in an attempt to quantify the relative importance of the various risk factors. The conclusions of the various authors are on the whole reasonably close to one another.

1 OJ L 327, 3. 12. 1980, p. 8.
2 OJ L 196, 26. 7. 1990, p. 1.

Estimates vary, but it appears that beween 2 and 8 % of all deaths due to cancer might have an occupational origin.

The main suspects are chemical substances, although certain other agents, both physical and biological, may also play a role.

Fortunately, the cancer records which have been kept in certain industrialized countries for nearly 50 years, as well as the dermatological studies carried out in all parts of the world have shown that only a few hundred chemical substances out of the 100 000 or so listed in the European inventory of chemical substances are carcinogenic.

A very complete text

The aim of the Directive is to provide increased protection for the health and safety of workers against the risks associated with exposure to carcinogenic agents at the workplace.

An automatic mechanism has been set up for adapting Directives to progress, the Directives concerned being Council Directives 67/548/EEC and 88/379/EEC on the approximation of the laws, regulations and administrative provisions of the Member States relating respectively to the classification, packaging and labelling of dangerous substances and to dangerous preparations. This means that any substance or preparation which is classified as carcinogenic is automatically covered by this Directive.

For any activity liable to present a risk of exposure, the nature, degree and duration of worker exposure must be determined in order to determine what measures to take.

The Directive first of all requires the employer to replace the carcinogenic agent with another which is less or not at all dangerous, to the extent that this is technically possible. If replacement is not technically possible, the employer must see to it that production or use is carried out in an enclosed system.

If the application of this system is not technically possible, measures must be taken to prevent or reduce the exposure.

Abnormal exposure to carcinogenic agents may be accidental or unforeseeable, or due to certain activities resulting in increased exposure. The Directive obliges employers to take all necessary measures to ensure the protection of the workers concerned, and lays down the technical and individual protection measures to be taken.

The Directive imposes restrictions on access to places where activities associated with the use of carcinogenic agents are carried out, and describes the measures to be taken for providing workers with appropriate personal hygiene and washing facilities, including showers and changing rooms for leaving street clothing and work clothing, as well as individual protective equipment.

The text specifies that workers must receive adequate information and refresher training at regular intervals on potential health risks, hygiene requirements, the use of protective equipment and the measures to be taken in the event of an incident.

A few hundred chemical substances out of the 100 000 or so listed have turned out to be carcinogenic.

Photo: INRS

It goes on to describe the appropriate measures to be taken so that workers can satisfy themselves that the Directive is being correctly applied and that they receive information on the potential risks to health posed by abnormal exposure.

In order that workers can be aware of the danger, employers must keep a list of workers exposed, to which the workers must have access.

Obligations concerning the monitoring of workers' health, including medical surveillance, are laid down in one of the articles, while practical recommendations for medical surveillance are included in the Annex.

Banned amines.

Specific agents: Four amines banned

Council Directive 88/364/EEC of 9 June 1988 on the protection of workers by the banning of certain specified agents and/or certain work activities[1]

This is the last Directive based on Directive 80/1107/EEC, but it has a pivotal role in the Commission's overall strategy. As mentioned earlier, although covering only four aromatic amines at present, the Directive provides that the Council, acting on a proposal from the Commission, in cooperation with the European Parliament and after consulting the Economic and Social Committee, may amend the Annex, in particular to include further agents or activities which meet the criteria laid down in the first article of the Directive, namely that:

- ☐ there are serious health and safety risks for workers,
- ☐ precautions are not sufficient to ensure a satisfactory level of health and safety protection for workers,
- ☐ the ban does not lead to the use of substitute products which may involve equal or greater health and safety risks for workers.

The Directive requires the Member States to ban the production and use of four aromatic amines: 2-naphtylamine and its salts, 4-aminobiphenyl and its salts, benzidine and its salts, and 4-nitrodiphenyl.

Certain derogations by the Member States are provided for in the Directive, for very specific purposes and subject to very stringent conditions. In the case of such derogations, the employer must take adequate precautions to protect the health and safety of workers and must submit information on a range of aspects to the competent authority, including information concerning the technical and organizational measures taken to prevent any exposure.

Once again, it should be noted that in the case of derogations from the provisions, the Directive guarantees access to information for workers.

The protection of workers from the risks related to exposure to biological agents at work: a proposal for a Council Directive

Proposal for a Council Directive on the protection of workers from the risks related to exposure to biological agents at work[2]

It has been clearly established that a large number of biological agents have detrimental effects on health and that exposure to such agents therefore increases the risks of disease. This exposure may occur during quite different activities, such as for example those taking place in research and development laboratories, the isolation units of hospitals, clinical, veterinary and diagnostic laboratories and industries using biological agents.

1 OJ L 179, 9. 7. 1988, p. 44.
2 OJ C 150, 8. 6. 1988, p. 6; amended proposal: OJ C 218, 24. 8. 1989.

For workers employed in these various sectors, it is particularly important to ensure that their exposure to biological agents is avoided or reduced to as low a level as is possible to avoid the development of infection or illness.

In April 1988 the Commission therefore presented a proposal for a Directive to the Council with the purpose of introducing a strategy to protect workers against risks to their health and safety arising from exposure to biological agents in all work situations.

What is a biological agent?

Decades have passed since the discovery of the fact that infectious diseases were due to living organisms not visible to the naked eye.

Subsequently, the discovery of the microscope enabled various organisms to be identified from among these 'germs' which differed from one another in appearance and in their way of inducing disease. It was only with the advent of electronic microscopy that it was possible to see the smallest of them, called 'viruses', although their presence was known since the work by Pasteur in the nineteenth century.

All these microscopic viruses, parasites and bacteria are now grouped under the heading of 'micro-organisms'. They possess the characteristic of being found everywhere both inside and outside the human body, to such an extent that the human body could not function without the presence of certain of these micro-organisms, so closely are they associated with its essential functions.

A masterly ecological equilibrium has become established between the human being and the micro-organisms which inhabit him. Like any equilibrium, little is needed for the body's system to become unstable and in certain cases for an infectious disease to result.

General principles of the proposal for a Council Directive: to protect workers from the risks related to exposure to biological agents in all work situations

It is possible to draw a distinction in the work environment between exposure to biological agents of an incidental nature, for example in medical departments or analysis laboratories, and exposures of a 'conscious' nature, such as in the industrial processes employing biological agents or research laboratories. In the former case, workers are necessarily exposed to unknown biological agents, in the latter, on the other hand, exposure may be avoided more easily and the biological agents used are in general known.

Between these two major categories of exposure at work to biological agents, there are certain situations of exposure at work to biological agents of an 'intermediate' type, which are on the borderline of these two categories. This is the case for certain medical departments, diagnostic laboratories and animal pens, where exposure to pathogenic micro-organisms is not deliberate, but not incidental either. The danger to be avoided in a technical prevention strategy is that of introducing a certain discrimination by distinguishing different categories of workers, rather than different types of activities.

Laboratory culture of micro-organisms: harmful biological agents.

Photo: INRS

This is why this proposal for a Directive covers at one fell swoop all work situations involving biological agents, by strongly recommending medical supervision of the workers exposed to the biological agents in order to assess the general state of health of the person to be exposed.

Taking account of the experience existing in some Member States, the protection of workers from the risks related to exposure to biological agents at work requires a prior assessment of the risk on the basis of certain specific criteria derived from the inherent danger of the agent, the risk of contamination related to the type of activity and the way in which it is transmitted to human beings.

In the Directive, as well as protection measures of a general nature, such as the use of a bio-hazard sign, special measures are listed which are applicable to industrial processes, laboratories and animal pens, as well as to certain medical departments and certain diagnostic laboratories.

These special measures are derived from the classification of biological agents according to the degree of their inherent hazard (groups 1 to 4), using the definitions given in the proposal for a Directive. Reference is made here to the 'containment level', which is a set of technical measures which must be applied to ensure the most effective possible barrier between the biological agent and the exposed worker. In this context, additional measures are planned for laboratories and animal pens.

Finally, with regard to biotechnologies, the concept of good microbiological practices enables criteria to be defined for genetically modified micro-organisms, allowing them to be compared to natural micro-organisms so that the group to which they belong can be determined and hence the physical containment level.

Physical agents: noise reduction at source a priority aim

Council Directive 86/188/EEC of 12 May 1986 on the protection of workers from the risks related to exposure to noise at work[1]

Its chief objective is the protection of workers from risks to their hearing, which is controlled by two parameters:

- the peak sound pressure (as produced by the sound of impacts and detonations) with a view to limiting the acute effects on the ear;
- the sound energy to which the worker is exposed during the daily work period with a view to preventing deafness in the medium or long term.

As a general principle, the Directive stipulates that the risks resulting from exposure to noise must be reduced to the lowest possible level, taking into account the technical feasibility and economic constraints. As far as the actual numbers are concerned, a risk to hearing exists where the maximum value of the sound pressure exceeds 200 pascals, or if the average level referred to an eight-hour exposure period exceeds 75 dB (A).

1 OJ L 137, 24. 5. 1986, p. 28.

Testing pneumatic drills in an anechoic chamber; checking risks to hearing.

Photo: INRS

Where the measurement of noise levels reveals that certain action thresholds have been exceeded, specific measures must be taken:

- above an average level of 85 dB (A), workers must be informed of the potential risks to their hearing as well as of the location of the risk zone. Personal ear protectors must be supplied to workers, who are entitled to have their hearing checked, with the purpose of diagnosing any hearing impairment due to noise;
- if the average noise level exceeds 90 dB (A), or if the peak sound pressure exceeds 200 pascals (corresponding to 140 decibels), the employer must draw up and apply a programme of technical measures (reduction of the noise produced and emitted) or of organization of work (reduction of the time spent in the zone of high noise levels) with a view to improving the situation. If these measures are not sufficient to prevent exposure, personal ear protectors must be worn. However, these must not increase the risk of accident due, for example, to the worker not noticing sounds or warnings signalling a danger.

It is pointed out in the Directive that the reduction of risks also applies to the design, building and/or construction of new plant, at which stage reductions can be achieved very effectively. Finally, where equipment is being used which, owing to the noise emitted, is likely to lead to an exceeding of the action thresholds, the employer must be informed of the risk so that he can take the necessary steps to meet his or her obligations. This information will, moreover, make manufacturers and users more aware of the advantages of less noisy equipment, and help to improve the situation through the operation of market forces.

On the subject of noise measurement and the surveillance of hearing, the text defines the objectives, whilst indications for attaining these objectives are set out in the Annexes.

The provisions of the Directive had to be implemented by 1 January 1990 (one year later for Greece and Portugal), and they must be re-examined before 1 January 1994.

Marcel VAN DER VENNE, *Principal Administrator*
Dr Giorgio ARESINI, *Principal Administrator*
Kevin GARDINER, *Principal Administrator*
Dr Hervé MARTIN, *Administrator*
Dr Marleen DE SMEDT, *Administrator*

Commission of the European Communities

CHAPTER 3

Health and safety at work in the extractive industries

The first of the European Communities was the Coal and Steel Community (ECSC). In those sectors of activity which involve major risks — particularly the disasters which have occurred in the coal mines — considerable efforts have been made to reduce accidents.

The activities carried out in this field have been extended to the other extractive industries, such as open-cast mining or natural gas drilling rigs, both land-based and offshore.

Research has also proved beneficial to workers in these sectors and has opened the way for progress in many areas, as well as helping undertakings to maintain their economic viability.

The Safety and Health Commission for the Mining and Other Extractive Industries: a double role

Collaboration in the field of legislation on safety matters in the mining industry was started in 1956, as a consequence of a serious fire in the Bois de Cazier mine at Marcinelle in Belgium where 264 workers were killed. The Council of Ministers of the European Coal and Steel Community (ECSC) reacted immediately and summoned a tripartite conference to identify those matters where safety should be improved. Following this conference, the Mines Safety Commission was established in 1957 as a permanent body at Community level where representatives of governments, workers and employers' organizations worked together. Later on, in 1965, its competence was extended to health protection and in 1974 to all extractive industries and its name was changed to its present form: the Safety and Health Commission for the Mining and Other Extractive Industries (SHCMOEI).

The SHCMOEI is chaired by a member of the Commission of the European Communities, currently Ms Vasso Papandreou and its secretariat is provided by the Health and Safety Directorate of the Directorate-General for Employment, Industrial Relations and Social Affairs (DG V).

The SHCMOEI consists of four members for each Member State, two of whom represent the government, one the workers (trade unions) and one the employers. A limited number of advisers and observers also attend the SHCMOEI's meetings.

The members are nominated by the governments of the Member States.

The SHCMOEI has two roles — the drawing up of proposals for submission to the governments of the Member States for improving safety and health protection for the workers in the industries within its competence and assisting the Commission in the task of preparing Community legislation.

Drawing up proposals for improving safety and health protection for workers

Pursuant to the terms of reference decided by the Council of Ministers, the most important task of the Safety and Health Commission has been to submit proposals to improve safety and health protection directly to the governments of the Member States, in particular when major accidents occurred. These proposals do not have the same binding force as Council Directives, but Member State governments do, in practice, largely comply with them.

These proposals have had a major influence on the development and coordination of legislation at Community level on safety and health at work. Account has been taken of experiences of all Member States, of research results (particularly ECSC projects), and of technical developments in the Member States.

Assisting the Commission in the task of preparing Community legislation

Besides these tasks, the SHCMOEI assists the Commission in preparing proposals for directives in the field of health and safety at work.

Wolfgang Obst
Secretary of the Safety and Health Commission for the Mining and Other Extractive Industries

Encouraging improvements

The extraction of mineral raw materials belongs among the earliest industrial activities of man and includes surface and underground mining, quarrying and the extraction of crude oil and natural gas both onshore and offshore.

High-risk activities

Despite technical progress, these activities entail considerably higher risks to workers' health and safety than do most other branches of industry. The reasons for this higher risk are the natural conditions under which extraction is performed, the risk of fires and explosions, first of all in coal mines underground and on offshore installations, but also the risk of falling rock in mines and quarries, both underground and on the surface. Another specific accident risk of these industries is that transport of large volumes of mineral, stone and material has to be performed under difficult conditions.

Among the most important occupational diseases are respiratory diseases, for example pneumoconiosis, and diseases impairing hearing.

About 800 000 workers are employed in the extractive industries of the European Communities, 200 000 of them work in coal mines underground and 25 000 on offshore installations.

Piper Alpha and other recent disasters

One of the most important preoccupations of the Safety and Health Commission is still the prevention of collective accidents. The circumstances of these accidents are examined on the basis of reports established by the competent authorities of the Member States. Subsequently, conclusions and proposals directed to the governments of the Member States are elaborated by the SHCMOEI (see preceding article).

In spite of the great progress made in the matter of preventive measures, some collective accidents have still happened over the last few years.

One of the most recent major accidents in the extractive industries occurred on the mineral oil and natural gas production and distribution platform Piper Alpha in the North Sea in July 1988 in which 167 workers perished after several explosions and very intense fires.

This is the reason why the preparation of the Directive on the exploitation by boreholes, in particular of crude oil and natural gas, has been given a high priority by the European Parliament and the Commission.

Two other disasters have occurred in recent years in underground mines:

- an explosion of gas and coal dust at the Simon colliery in the Lorraine basin in 1985 in which 22 miners were killed and 269 others were affected to varying degrees by fumes;

Offshore oil and gas drilling and production installation. One of the most recent serious accidents occurred on the Piper Alpha platform in the North Sea, where 167 workers perished.

Photo: RAG-Foto

- in 1988, an explosion of lignite dust at the Stolzenbach mine near to Kassel in the Federal Republic of Germany, which caused the death of 51 miners.

Following the explosion which occurred at the Simon mine, the European Parliament invited the Commission of the European Communities, together with the Safety and Health Commission for the Extractive Industries to make proposals to improve safety conditions in coal mining in the Community and to shed light on the causes of this disaster.[1]

As a result an important report on the 'Measures to reduce the explosion and fire risk in auxiliary ventilated workings and to improve the protection of personnel in the event of explosions and fire in coal mines' [2] was elaborated.

Modern technology has also a significant impact in this field. More powerful machines, to drive headings and to produce coal, have brought new risks (in particular in respect of the firedamp and coaldust explosion hazard). These machines not only produce more, but also generate higher quantities of dust; in addition, there is a higher risk of methane explosion caused by the friction of cutting picks on the rock, which causes them to heat up.

On the other hand, modern technology has been used to minimize the risk of explosion. Methane drainage methods which allow a high proportion of methane existing in coal and rock to be captured, have been developed. Modern equipment to monitor the mine atmosphere for methane concentrations, automatically and continuously, was introduced, together with devices to shut off electric power automatically when a certain methane limit value is exceeded.

Furthermore, great efforts have been made to develop effective techniques for cooling the cutting picks (by water spraying) and for preventing ignitable mixtures of firedamp and air building up in the machine's operating zone. It should be mentioned that water spraying on cutting picks not only reduces the risk of igniting firedamp, but also reduces the amount of coal and stone dust which may enter into the mine air. This has a favourable twofold effect: the pneumoconiosis risk will decrease and at the same time the risk of coal dust explosion will be reduced.

Protective measures are essential

Experience has unfortunately shown that preventive measures are not always successful. It is therefore essential that they be supplemented by remedial measures designed to suppress an explosion, i.e. by installing explosion barriers comprising suppressant units to extinguish the flames (by inert dusts or water).

Non-triggered explosion barriers

These rely on the violence of the explosion to cause sufficient inert powder or water to be released for extinguishing the flames. This implies that the explosion has already developed a certain force before reaching the explosion barrier and therefore the barriers must be installed at a certain distance from the work face. But an explosion which has developed to a certain intensity produces not only dynamic effects which often prove fatal for the affected personnel, but also significant quantities of toxic gases, even when the explosion has been extinguished by the barrier.

Triggered explosion barriers

Efforts have been made over several years to develop systems to suppress explosions near to the starting point, which is very often the work face. Research work in this field, especially ECSC research, was finally successful, and operational types of triggered barriers are now available in the Community.

In the case of triggered barriers, the power source for dispensing the suppressant is independent of the force of the blast. The barrier can therefore be triggered earlier (a simple firedamp ignition can suffice), and the disadvantages of the non-triggered system are considerably reduced. In addition, for comparable effectiveness of suppression, the triggered barrier occupies considerably less space than a non-triggered barrier, and may therefore be easier to install in congested workings.

Water-trough explosion barriers — a great progress in safety

It must be emphasized that recent experience has confirmed that non-triggered explosion barriers are a very effective and reliable means to suppress explosions and to limit their effects and extension. All explosions which have occurred since 1982 in Community coal mines were stopped by non-triggered water-trough barriers. Furthermore, experiments showed that this type of barrier can suppress not only coal dust explosions and combined firedamp / coal dust explosions, but also pure firedamp explosions, which non-triggered stone dust explosion barriers cannot achieve. Further advantages of this type of barrier are easy installation and maintenance.

1 OJ C 94, 15.4.1985, p. 86.
2 Doc. No 5147/89.

For all these reasons, the development of water-trough barriers can be considered as a great progress in safety. Here, too, ECSC research has had considerable influence, and the Safety and Health Commission has helped to expand their use in the coal mining industry of the Community.

Finally it should be mentioned that triggered explosion barriers will not replace non-triggered barriers, but rather supplement them, thus reinforcing the whole system of protection.

A marked decline in accidents

The success of efforts to limit explosions in the coal mining industry of the European Community is illustrated by Table 1. The number of men killed by explosions has been reduced steadily these last few decades, though the number of explosions has not.

The conclusions that can be drawn from this are that measures to limit the consequences of explosions have been rendered more effective. In future, however, additional efforts must be undertaken to reduce the number of explosions as well.

It should be emphasized that the majority of accidents in coal mines underground are not major accidents involving several persons, but individual accidents where only one person is involved. Therefore accident statistics as a whole must be considered to assess the results of work to reduce the accident risk.

The statistical information compiled over more than 25 years gives a clear picture of the decreasing trend of accident rates per 1 million hours worked (see Table 2).

For the period between 1958 and 1985, for which comparable figures are available at Community level, there was a clear reduction in the frequency rates of accidents.

Water-trough explosion barrier: a safe means of suppressing explosions and limiting their spread.

Photo: RAG-Foto

Table 1

Firedamp and coal dust explosions in coal mines in the EC

Period	Explosions (total)	Deaths (total)	Workers underground (average)	Number of workers killed per year referred to 100 000 workers employed	Output in million t/a (average)	Number of workers killed per explosion
1958-64[1]	8	423	325 000	18.4	237	52.9
1965-74[2]	9	146	311 000	4.7	215	16.2
1975-85	9	71	331 000	1.95	230	7.9
1986-31.5.1988	—	—	248 000[3]	—	189[3]	—

1 The SHCMOEI was set up in 1957.
2 Including the UK as from 1972.
3 Including Spain and Portugal.

Table 2

Accident rates per 1 million hours worked in coal mines underground in the European Community

	1958	1971	1985
1. Total (incapacity more than 3 days)	—	180	94.5
2. Incapacity 4-20 days	—	114	56.15
3. Incapacity 21-56 days	—	51	27.30
4. Incapacity more than 56 days	13.55	15.09	10.8
5. Fatal accidents	0.61	0.44	0.26

Table 3

Some statistical figures referring to coal mining underground in the European Community

	1958	1971	1985	1988
1. Number of workers employed (in thousands)	638	244	315	230
2. Production of coal (million tonnes)	252	165	201	215
3. Productivity (output in kg per man and hour worked underground)	200	398	474	579

Health and protection against occupational diseases

Pneumoconiosis: a code of good practice to reduce exposure to dust

Towards the end of 1989, the Safety and Health Commission adopted a proposal to Member State governments to reduce health risks associated with exposure to fibrogenic mineral dust.[1] This document, which deals with the pneumoconiosis risk, includes provisions for the monitoring of airborne dust and on limit values for respirable dust, as well as a code of good practice to reduce exposure to dust.

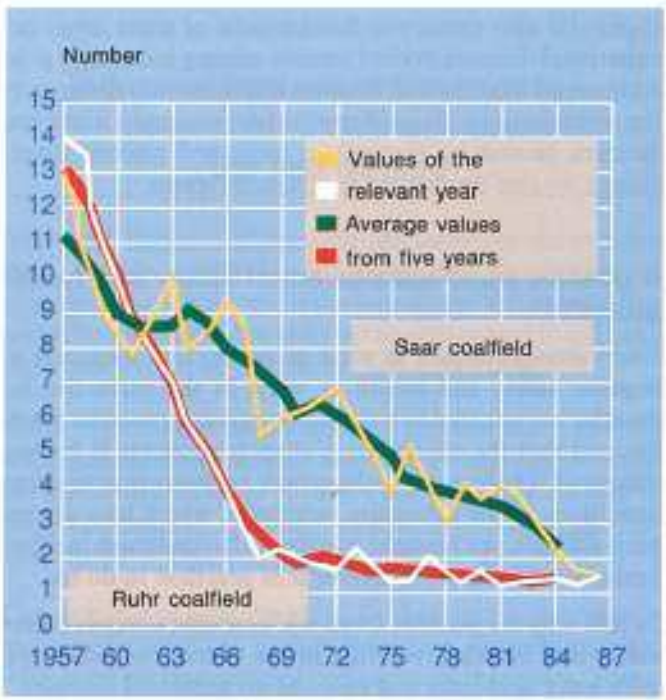
Points mentioned in the code of good practice aimed at reducing the exposure of workers to dust include:

- ☐ Machinery should be designed, manufactured and installed to reduce the production of dust, and appropriate methods of work should be chosen.
- ☐ One of the most efficient means is still the use of water to suppress dust.
- ☐ Dust can also be withdrawn by suction.
- ☐ Furthermore, workers can be protected against dust by separation from the source of dust by remote handling, by use of cabins, etc.
- ☐ Workers can also be protected by wearing personal protective equipment such as dust masks, but these should never be a substitute for good preventive methods.

Statistics on pneumoconiosis are given in Graphs I and II for the Federal Republic of Germany and the United Kingdom, the most important coal-producing Member States.

[1] Doc. No 5761/17/85.

Graph I



Incidence rates of new cases of pneumoconiosis diagnosed by pneumoconiosis panels (1957-87) in the Ruhr and Saar coal mines (rates per 1 000 men employed).

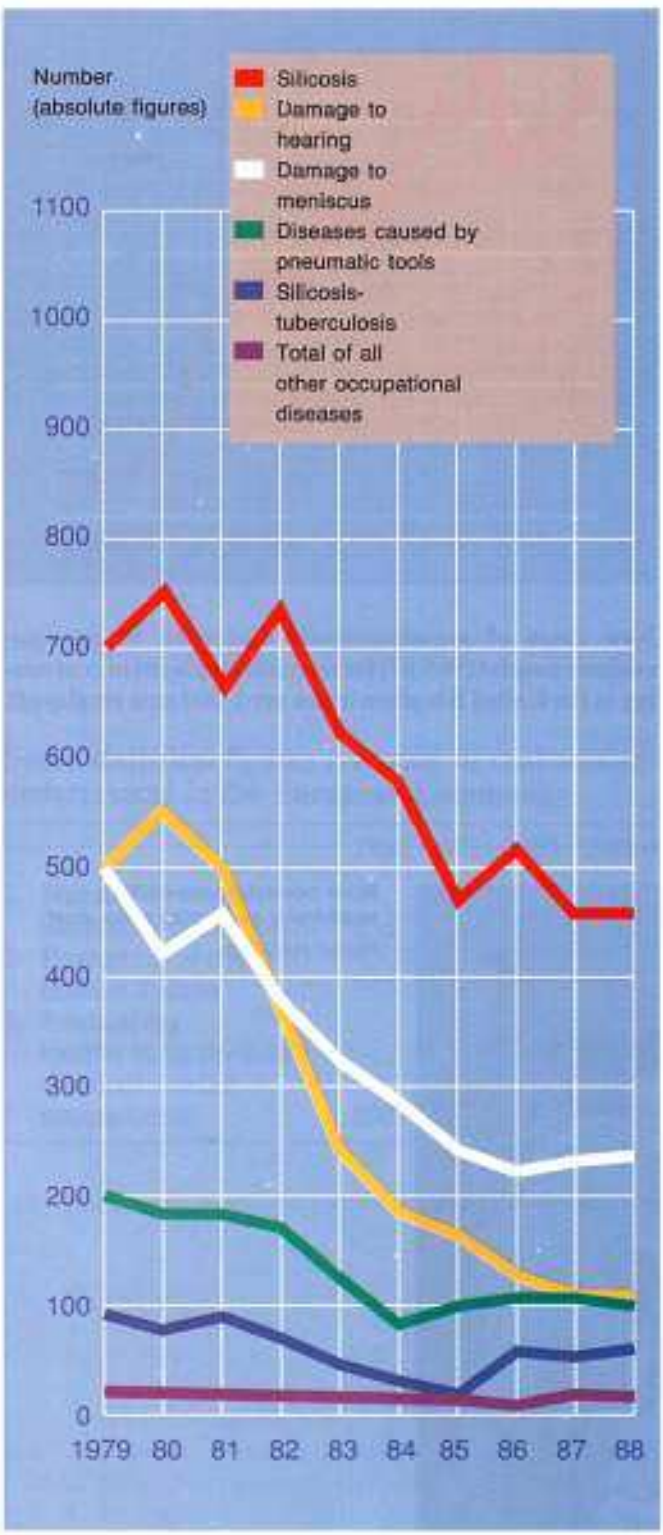
Graph II

New cases of pneumoconiosis diagnosed by pneumoconiosis panels (1965-87) for men still employed in coal mining in the United Kingdom (rates per 1 000 men employed).

More powerful coal-cutting machinery generates more dust.
Photo: RAG-Foto

Graph III

New cases of occupational diseases in the German mining industry (1979-88)



Other occupational diseases and health hazards to be considered

Graph III also shows the development of some other occupational diseases in the German mining industry, e.g. in addition to silicosis and hearing impairments, damage to the meniscus — still significant but decreasing in numbers, diseases caused by pneumatic tools and silicosis-tuberculosis — also decreasing in absolute figures.

A positive trend towards better safety and health protection

Every attempt should be made to ensure that measures to improve safety and health at work in the extractive industries are adapted to technical progress as soon as possible, and that the effectiveness of such measures is further enhanced. The long-term objective is to ensure that working conditions in the extractive industries, which have always been difficult, are brought into line with conditions in other branches of industry wherever it is practical to do so.

In this way, the positive trend will continue towards better safety and health protection in the extractive industries, with fewer accidents and cases of occupational diseases.

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Angel FUENTE, *Principal Administrator*
Eggehard ROTHER, *Principal Administrator*
Duncan C. WALLACE, *Consultant*

Commission of the European Communities

European Coal and Steel Community research into health and safety at work: a fundamental contribution

Within the framework of the European Coal and Steel Community (ECSC), various research programmes have been carried out in the field of health and safety, dealing with several subjects which have assumed increasing importance over the years.

Industrial hygiene in the mines — deep-seated changes over the last decade

The main subjects of research are means of suppressing dust at the coalface and elsewhere, monitoring of underground conditions in the mines, and achieving a better understanding of the links between exposure to dust and pulmonary diseases caused by dust inhalation.

Great efforts have been made to eliminate dust from the underground environment. One area of research to which particular attention has been devoted is the development of dust-suppression systems compatible with the requirements of firedamp explosion-proofing.

One example of progress in the field of dust suppression is the development of a dust-extraction system installed within the curring drum of coal-winning machines. This is a simple tube, open at the ends, into which water is sprayed at high pressure. The water spray has two functions, namely to displace the air and to capture the particles.

The control of nuisances in steel plants: action at the workplace and in the environment

The collection and or reduction of organic and inorganic emissions of heavy metals and the control of dust emanations in the course of different operations on raw materials and slag heaps are the main lines of research in atmospheric pollution.

The treatment of gas scrubbing waters and waste water from rolling mills has improved the quality of fresh and sea water. The liquid waste from coking ovens has been greatly purified and the heavy metals removed from that coming from the treatment of steel surfaces.

The packaging of wastes for use inside or outside the plant has been actively pursued.

Inventories of emissions into the air and their identification have been completed along with studies of their impact on the environment and the risk of accidents.

The detection, localization and identification of sources of noise have allowed the improvement of techniques of sound proofing of equipment, manufacturing processes and materials-handling in steel plants.

Considerable impact of research on safety in the mining industry

Developments in technology, in particular mechanization, transport, supports and working methods, have led to changes in the type of accidents and where they occur. Research has therefore concentrated on identifying the potential risks of new techniques, analysis and presentation of data, and improving safety consciousness and individual safety procedures.

One field in which significant progress has been made during the last few decades in the fight against mine fires is that of inert gas techniques using nitrogen to reduce the oxygen content of the air. This technique also reduces the risk of explosion during the sealing, opening and purging of fire areas.

Safety conditions have also been considerably improved by continuous monitoring of firedamp levels using highly sensitive detectors coupled to automatic triggering of the electricity network.

Spontaneous combustion, fires, explosions, rescue, extraction methods and the use of computers are all subjects of ongoing research by the European mining industry.

Health protection — important research into respiratory diseases

During the past few years important research has been carried out into the aetiology of silicosis. The work has led certain researchers to study ways and means of treating this disease and 'mixed dust' pneumoconiosis. Basic studies have been carried out in order to determine correlations in X-rays. In addition, numerous problems of everyday concern have been addressed.

In 1962 an epidemiological questionnaire was designed for the study of bronchitis and emphysema in miners and steelworkers. The questionnaire was last updated in 1988, and it is still being used by the ECSC industries to study the prevalence of respiratory ailments in workers exposed to risk.

However, respiratory troubles are not the only ones to affect coal and steel workers.

Special attention has been given to cancer, in particular its early detection, by research carried out into the carcinogenic components of atmospheric pollutants in the ECSC industries.

Much research has been carried out on possible treatments for the respiratory diseases affecting coal and steelworkers.
Photo: INRS

The programme has also included the development of an information and training system for all those responsible for prevention and detection of occupational diseases, by improving the methods used by occupational physicians and safety engineers for qualitative and quantitative evaluation of risk factors.

As regards chronic lung diseases, the investigations are being extended and developed, in particular so as to fill the gaps in the technical methods of studying lung function. The research projects have been mainly selected on the basis of their chances of leading to practical applications.

In the fields of pneumoconiosis, chronic bronchitis and emphysema, longitudinal research has been aimed at gaining better knowledge of the conditions in which these diseases appear. There is still a great deal of progress to be made in this area in order to improve the prevention of these illnesses.

The programme also devotes considerable attention to the risks inherent in the use of many different types of chemical substances in steelmaking operations. These include in particular various solvents and detergents, cutting and waste oils, certain additives derived from hydrocarbons, and isocyanates.

Finally, emphasis is laid on the need to study new problems which are now generally considered as important in view of the frequency with which they occur, namely afflictions of the locomotor system, and afflictions due to noise.

Applying the ergonomics contribution to health and safety

Ergonomics makes a contribution to engineering design to ensure that the processes, equipment and products in our modern industrial society truly serve human needs. It offers compatibility between operator, environment and machine or equipment, and with this compatibility reduced risks to human health and safety.

In the steel industries

The period 1978-88 was a period of restructuring for the European steel industries. In parallel there was a spectacular technological revolution. The new steel plants have reflected its potential and, fortunately, the more perspicacious have taken advantage of this concurrence of events to ensure that the design of this new generation of steel-production plants has the benefit of ergonomics.

A considerable effort went into researching and applying the ergonomics contribution to health and safety in the latest designs of continuous casting plants through action-orientated research projects in Italy, Belgium and Germany. A visit to the latter project at Mannesmann, Duisburg, would confirm not only how ergonomics can contribute to safety in new technology, but how the two hand-in-hand, ergonomics and technology, can enhance a working environment to achieve another important aim of ergonomics, the improvement of working conditions.

More generally this aspect of the programmes is dealt with in 'Ergonomics guidelines for the design of computer-based information systems', [1] which will enhance the validity and reliability of decisions made by the monitors of steel-making processes and 'Recommendation for the physical construction of control cabins to meet ergonomics requirements'. [2]

Studies on heat stress and workload were developed, on the one hand, with respect to better techniques for indicating the load imposed by hostile thermal environments and the way job organization can alleviate the stress; on the other hand, novel cooling systems have been investigated and developed from an ergonomics viewpoint. Notwithstanding this approach, successful attempts were also made to improve technically and ergonomically heat and molten metal splash protective clothing. This was achieved with collaborative projects in Belgium, the Netherlands and the United Kingdom.

Communications are an important aspect of safety and a number of projects concentrated on this theme. These have now come to fruition in a project with the development and validation of an 'active hearing defender' which should satisfy the need for noise reduction at the ear without risk to safety due to the muffling of auditory alarm signals or communication. [3]

In the coal industry

The microprocessor has not been without influence in the coal industry but, given the basic environmental and working conditions of the coal industry, the ergonomics programmes have in the main dealt with a batch of long-standing health and safety problems. Not untypical here has been the completion of the work to define the ergonomics design parameters for heavy underground mining equipment. The approach has allowed recommendations and guidelines to be drawn up which should be applicable to the whole range of such equipment in the foreseeable future. [4] A similar programme of work has also produced the ergonomics design parameters for an extensive range of underground personnel transport systems. [5] As a result of work since 1980 guidelines for the ergonomics requirements of underground illumination have been drawn up. [6]

1 S. G. Collier and C. F., Talbot *Ergonomics guidelines for the design of computer-based information systems*, 1989 (Community Ergonomics Action, Luxembourg: Report No 12, Series 3).

2 G. Förster, *Recommendation for the physical construction of control cabins to meet ergonomics requirements*, 1989 (Community Ergonomics Action, Luxembourg, Report No 10, Series 3).

3 Institute of Occupational Medicine, *Improved hearing protection in a mining environment*, 1989 (IOM Edinburgh: Final report, ECSC Contract 7249/13/109).

4 G. Simpson, 'Underground mining equipment', 1985 (in: *Ergonomics in the ECSC industries (1980-84)* Community Ergonomics Action, Luxembourg: Report Nos 5-7, Series 3).

5 W. Lessmöllmann, 'Developments in underground transport' (in: *Ergonomics in the ECSC industries (1980-84)*, 1985, Community Ergonomics Action, Luxembourg: Report Nos 5-7, Series 3).

6 Anon: *Guidelines on the ergonomics of underground illumination*, 1987 (Community Ergonomics Action, Luxembourg: Report No 9, Series 3).

Applying ergonomics to the latest generation of steel plants has improved both productivity and working conditions.

Photo: INRS

A problem unhappily common to both the coal and steel industries is occupationally induced low back trauma. The work carried out in the recently completed programme will allow guidelines for materials-handling to be drawn up which could reduce significantly the incidence of such disability.

Information

The Commission has put at the disposal of the ECSC industries a Community Ergonomics Action Bureau of Information and Coordination. This followed a resolution of the ECSC Consultative Committee calling for the maximum utilization of results from the ergonomics programmes.[1] Through the Bureau and its associated experts the projects in ergonomics action programmes are appropriately coordinated at Community level during their lifetime with regard to their aims, methods, lines of investigation and progress; their results are evaluated and synthesis and transmutation of the results are prepared appropriately for engineers, designers, manufacturers and the two sides of industry.

Progress is an incentive to continue research

Considerable progress has been made as a result of the various multiannual programmes funded by the EC Commission since 1957. The frequency rate of fatal and non-fatal accidents and the incidence of respiratory illnesses of occupational origin have significantly declined in recent years. The programmes have also been shown to make a contribution to the economic viability of the companies concerned.

Furthermore, there is an increasing body of EC directives and national legislation devoted to improving working conditions in industry.

The success of these programmes and the strengthening of these legal instruments are themselves sufficient reasons for continuing the research, in order to respond more effectively to the needs of workers in improving health and safety at work.

John Graham FOX, *Principal Administrator*
Dr Giorgio ARESINI, *Principal Administrator*
Bernard LE GOFF, *Senior Administrative Assistant*

Commission of the European Communities

[1] ECSC Consultative Committee meeting, 6 June 1980.

CHAPTER 4

Training and information

Training is the bedrock of an active attitude to prevention: its beneficial effect is illustrated in several hazardous sectors, a case in point being deep-sea fishing.

Moreover, know-how is not everything; it has to be disseminated as well. That is the aim of Janus, *the Commission's first regular publication on health and safety at work in the Community.*

Training: promoting an active attitude towards prevention

All too frequently the Commission's task tends to be looked on solely as harmonizing national laws with a view to achieving the large internal market. It is true that this task is fundamental: however, in the field of health and safety at work, the successive Commission programmes have, quite rightly, shown the need to promote training alongside these achievements so as to instil awareness of the concept of security.

Bringing home the rules on prevention

National statistics pursuant to the action programmes have clearly shown that almost all accidents at work are associated with failure to comply with rules. Consequently, to attain this aim of improving health and safety at work the relevant minimum requirements must be supplemented by bringing the rules on prevention home to people and having them taken on board. There is even a measure of contradiction between simply meeting minimum safety and hygiene requirements and prevention. This idea was expressed as early as 1972 by the committee chaired by Lord Robens in its report to the British Government, which ordered a review of the country's accident prevention strategy. 'Apathy is the greatest single contributing factor to accidents at work. This attitude will not be cured so long as people are encouraged to think that health and safety at work can be ensured by an ever-expanding body of legal regulations enforced by an ever-increasing army of inspectors'.[1]

The sense of safety, the will to control the risks, promoting awareness of the safety regulations — all different facets of one and the same thing — can easily be traced back to the education and information systems, while they also condition compliance with the rules. Given that the rules may not be properly observed, some quarters advocated in the past that safety should be incorporated into machine, task and workplace design to protect people against their own mistakes. Although such incorporation was of course required, it soon proved inadequate in that it disregarded the necessary participation of those involved first and foremost, the workers in this case, in controlling the risks at the workplace.

The objectives of safety training are:

- ☐ to develop a sense of safety;
- ☐ to learn how to control the risks;
- ☐ to promote awareness of the rules of safety.

These objectives must be pursued at all levels from general education up, including vocational training, retraining and refresher training.

General education: taking on board the concept of risk from childhood

The work undertaken since the first Commission action programme[2] has clearly demonstrated that the basic reflexes should be acquired by the age of 12 to 13 years, when the psychomotor development of the child is complete. This does not of course advise against measures after this age, but means that training has to be adjusted in the light of the 'experience' acquired. The Commission's measures therefore consist firstly in seeking to develop a sense of safety during basic education, and in particular from the earliest age at school, to learn to control the risks and subsequently, during vocational training, to bring home the rules on prevention. Taking up earlier initiatives in a more restricted context, the Commission, now boosted by the 'workplace' Directive,[3] which also covers school premises, has looked into the various aspects of safety at school. The child should understand the concept of risk and receive the basic principles in methods which will enable him or her, throughout life, to control the risks that occur and will occur in the future at home, in sporting activities, on the road and of course at work. At this elementary level of education, a general approach is obviously the only practicable solution. Given the overloading of school curricula, it is in fact better to use the subjects taught to develop the child's sense of safety and to teach him or her to seek to control the risks: sport, to convey the rudiments of prevention; mother tongue, to recount and analyse accidents; arithmetic, for basic but real safety problems (rather than unrealistic problems with taps and overflowing baths); etc.

1 *Safety and health at work*. Report by the Robens Committee — July 1972. HMSO cmnd 5034.

2 Action programme of the European Communities concerning safety and health at work — Action 6, OJ C 165, 11.7.1978.

3 Council Directive of 30.11.1989 concerning the minimum safety and health requirements for the workplace 89/654/EEC, OJ L 393, 30.12.1989.

Vocational training: awakening a sense of prevention

Vocational training at whatever level must motivate the future worker, from the unskilled worker to the engineer, teach him or her about the risks to which he or she may be exposed and how, at his or her basic level of responsibility, he or she may prevent accidents.

This is what the Commission has tried to do in the high-risk sectors: deep-sea fishing (see pp. 78-79), sea transport, agriculture, building, etc.

In these sectors, which make heavy physical demands on the worker, he is particularly sensitive to anything that may help him to avoid injury; training in such cases has often awakened a sense of accident prevention among trainees in fields bearing no relation to the subject of the session.

Instructor training

The Commission has organized instructor training in order, wherever possible, to form a small national nucleus of instructors in the fields of fishing, agriculture and building. In addition, measures are taken to promote awareness with the support of audiovisual presentations.

Luc DUTAILLY
Principal Administrator
Commission of the European Communities

Taking on board the concept of risk from childhood. *Photo: INRS*

An example of safety training in a high-risk sector:

The case of deep-sea fishing

Deep-sea fishing is without doubt the field where most measures have been implemented with a view to improving safety. Of all the major human activities, fishing is by far the most dangerous.[1] *In addition, Community studies providing statistical data on the circumstances of fishing accidents*[2] *have revealed that, although half the fatal accidents were related to the loss of the ship, the other half were accidents at the workplace. This finding led to a revision of the traditional approach to fishing safety. Until then, this approach focused on the safety of the ship and, when this was under threat, on rescuing people.*

Of all human activities, deep-sea fishing is by far the most dangerous. *Photo: IUT Lorient*

The measures adopted at Community level have developed around four focal points in a strategy designed in such a way that they support one another. These focal points are:

- ☐ vocational training;
- ☐ safety of the work;
- ☐ safety of the ship;
- ☐ medical assistance and sea rescue.

Vocational training: awareness to limit the risks

The measures adopted by the Commission of the European Communities are essentially based on the level of awareness in the industry to the prevention of accidents. It had a modular training course drawn up on the prevention of accidents at work. Numerous examples of photos of real life situations show how a large number of situations generate accidents which could often have been avoided with a little thought. This training course also provides tuition on how to analyse an industrial accident to find out its real causes, which often exist well before the cause that led to the accident. The course is designed for presentation at all stages of vocational training on an alternative basis for deep-sea fishermen to enable them to discover gradually how, at their respective levels, they can take action to limit the risks of accidents at work and at the same time improve their working conditions.

The training courses in question have been translated into the nine official languages of the Communities and training sessions organized for instructors have involved 10 of the 11 maritime States of the Community.

As an experiment, following on from that already successfully undertaken in agriculture, the Commission is taking further measures so that deep-sea fishermen become more aware of the problems of accident prevention. Like agriculture, in fact, deep-sea fishing is a very physically demanding occupation. It is a question of learning, through ergonomic training, what action to take to avoid injury and pointless fatigue, while achieving greater physical efficiency.

Safety of the work: analysis of the living and working conditions

A wide-ranging study has been carried out on living and working conditions in the deep-sea fishing industry for several years now. Measures have been taken to discover the working hours, the heart rate, oxygen consumption, lighting and noise and vibration levels at the various work stations on board. 'Clinical' analyses of certain characteristic accidents are undertaken. To start with, a single team of researchers from the Institut Universitaire de Technologie of Lorient undertook this work in the Community, but it soon emerged that the specific characteristics of fishing in some countries required a team of researchers to be trained in those countries. The Institut Universitaire de Technologie of Lorient was asked to provide the training for teams of researchers of this kind in Spain, in the United Kingdom, in Portugal and then in Italy, extending to other countries whenever the need is felt. These new teams have undertaken, or are about to undertake, additional analyses of the living and working conditions. At the same time, they are supplementing the training course units on

1 About 10 times more fatal accidents than in the most dangerous occupations on land: mining, building and agriculture.

2 M. Andro, P. Dorval, G. Le Bouar and C. Le Pluart. *Les accidents du travail dans la pêche maritime*. Study carried out on behalf of the EEC, Doc. Lux. 3434/83.

accident prevention or adapting them to their specific national characteristics.

Safety of the ship: improvement of stability

The industry has always paid particular attention to this aspect. The Commission makes a financial contribution to the work carried out in cooperation among several countries to improve the stability of small fishing vessels and to develop a reliable system providing the employers with information on the state of stability of their ship. The work should lead to conclusions on training and instrumentation within a year.

Medical assistance at sea: the MAC-Net programme is developing

The Commission of the European Communities has been defining the sectors in which closer cooperation between medical centres was both feasible and desirable. In this way the medical advice centres of France, Spain, Italy, Greece and Portugal have, in turn, pooled their resources and introduced a cooperation programme entitled 'MAC-Net' — the initials of Medical Advice Centres Network. This programme, which started in 1986, should last for eight years.

Naturally, these Community measures are not confined to deep-sea fishermen, but cover all seamen. Under its present organization, the network represents nearly 70 % of the transport and fishing fleets of all the countries of the Community.

MAC-Net is based on the introduction, training and extensive use of advanced data processing and telecommunications technologies for the gradual development of advanced services in distance medicine at Community level, thus improving the health and safety standards for seamen and isolated people.

The cooperation programme is designed:

- on a gradual, modular basis in order to enable the centres to acquire the necessary competence and to test the new approaches to the content and methods of organization of medical assistance; and
- on the basis of voluntary participation.

The medical assistance centres prepared to participate in the programme may join the phase best suited to their needs and adapt their operating systems accordingly. Present activities include exchanges of experience between the most advanced countries and the transfer of experience to those in the process of joining the network.

Medical assistance by radio at sea at times comes up against very marked differences in the composition of the medical equipment of the ships. With a view to harmonization 'while maintaining the improvements made', as required in Article 118a of the Treaty, a proposal has been made on the medical equipment of ships.

One of the consequences of MAC-Net is to have made the need felt for adapting the medical training of seamen to the progress in technology and therapy, as well as to the real health and safety risks with which seamen are faced. A programme called Formac was implemented for this purpose two years ago.

Success of the measures in favour of fishing

It has to be recognized that the measures developed in favour of fishing have met with great success. Why? Doubtless because, having placed people and no longer the ship at the centre of the safety preoccupations, this has brought about a considerable change in attitudes in the fishing sector: there are now shipowners who consider it natural to make investments with a view to improving the living and working conditions on board. This change in attitudes has opened the way towards significant progress, including the fields of ship and navigational safety.

Luc DUTAILLY
Principal Administrator
Commission of the European Communities

An example of a pilot health and safety training scheme

Grenoble: Synchrotron site

Under the auspices of the Commission of the European Communities, on 13, 14 and 15 December 1989, Grenoble hosted the 'integrated accident prevention training' meeting days, organized by the Steering Committee of the ESRF show site (European Synchrotron Radiation Facility). The various parties involved in the European site met to organize integrated accident prevention there.

To obtain a better idea of the significance of the step, it should be noted that the Commission of the European Communities was drawing up a proposal recently for a directive on health and safety at temporary or mobile work sites.

To produce safety and not to monitor safety

The above affirmation may prove to be correct within the next few months on the Synchrotron site. It is at all events the will expressed by a large number of the future parties involved at their three-day meeting in Grenoble.

This 'extraordinary' meeting, according to the project 'implementors', has already provided the opportunity of getting to know people before working alongside them for about 20 months, this being, from February 1990, the estimated duration of the major work.

Building the Synchrotron at Grenoble: a pilot site for the prevention of accidents at work.

Photo: AM Freund, A. Childéric

A show on a truly European scale

The organization of this giant site, where some 500 people will be concentrated on 30 hectares, has started and all parties are obviously concerned to organize integrated accident prevention and to ensure maximum safety in all fields.

For the developer, the Grenoble seminar was 'definitely worthwhile for people to get together who would have found it hard to meet elsewhere'. In addition, it is now a matter of 'leaving the rigid framework of a contract to enter fully into the field of concrete problems'.

A new attitude

As a show site on a truly European scale, Synchrotron also provides the opportunity of attracting official bodies and authorities in a new move, the principal objective being to create a new attitude, essential to improving the prevention of industrial accidents on site among all the parties involved.

And it is in this perspective that the Steering Committee, which has been working with the undertakings, the principal contractor and the developer from the start of the project, organized this training seminar with the Commission.

Under the active training, based on the use of a project improvement guide by two separate committees, five questions on working conditions on site went to the highest possible level:

- ☐ What are the forward plans?
- ☐ What training is provided for the personnel?
- ☐ What criteria are used in the choice of the movements and handling operations, subcontracting and protection of workers on site?
- ☐ What are the living conditions on site?
- ☐ How do the accident prevention agencies operate?

From the 'works' committee to the 'site organization' committee, the various subjects were dealt with across the board. A general principle very quickly emerged from the work: everything has to be provided for all parties involved in the site, the crux of the problem appearing to be the training and information for the subcontractors on site.

Pierre LORENT
Consultant to the
Commission of the European Communities

The situation in the Community construction industry:[1] a high accident rate

The figures to start with: the construction industry employs 10% of all wage and salary earners in the Community, accounts for 15% of all accidents at work and 30% of the fatal accidents in the industrial sector. The cost of the accidents represents 3% of the turnover of the building and public works sector, whereas the cost of protecting workers within undertakings, with strict application of the regulations, represents 1.5% of turnover for the building and public works sector, in other words, half the cost of the accidents.

High social and economic costs

The social and economic costs of the deficient working conditions can be broken down as follows: 22% of total wages for absenteeism, 8.4% for accidents at work, 30% for the turnover on site, 17% for productivity differences and 7% for alterations on site.

The cost of defects found on site

The defects can be traced to the design and the organization and upstream planning of the site and also the performance of the work. The excess costs come from the volume of supplementary studies, the loss on performance, repairs, pointless work, expert assessments of damage ...

The cost of defects may attain 10 to 18% of turnover, that is 20 to 45% of the industry's wage bill.

Source: European Foundation for the Improvement of Living and Working Conditions — Dublin

1 *From drawing-board to building site — Working conditions, quality, economic performance*, Office for Official Publications of the European Communities (ISBN 92-825-8686-3), Pierre Mardaga, ed. (ISBN 2-87009-384-5).

The construction industry accounts for almost 30% of fatal accidents in the industrial sector.

Photo: INRS

JANUS

COMMISSION OF THE EUROPEAN COMMUNITIES — DG V/E
COMMUNITY INFORMATION SYSTEM
FOR HEALTH AND SAFETY AT WORK

As part of its third action programme for health, safety and hygiene at work, the EC Commission's Directorate for Safety and Health of the Directorate-General for Employment, Industrial Relations and Social Affairs has set up a Community information system based on a quarterly publication entitled *Janus*.

The aim of this publication is to help circulate information on health and safety at work between Member States.

Subjects dealt with include the main characteristics of national legislations, training programmes, developments in research, problems associated with toxic products, and statistical information.

The publication also announces the most important conferences and symposia.

By promoting the circulation of this type of information and experience, *Janus* aims to improve information for employers and workers, to stimulate thought on matters of health and safety at work and to encourage initiatives, as well as to enable industry to share in the growing awareness on a European level of the need for a coordinated policy in this area.

A free subscription may be obtained by writing to the *Janus* secretariat at:

Janus
Instituto Nacional de Seguridad e Higiene en el Trabajo
Centro Nacional de Condiciones de Trabajo
C/Dulcet, s/n
E-08034 Barcelona

Directorate-General for Employment,
Industrial Relations and Social Affairs

CONCLUSION

And the future?

Community Charter of the Fundamental Social Rights of Workers [1] (adopted by the Heads of State or Government of 11 Member States of the European Community meeting at Strasbourg on 9 December 1989) — Article 19: health protection and safety at the workplace

Every worker must enjoy satisfactory health and safety conditions in his working environment. Appropriate measures must be taken in order to achieve further harmonization of conditions in this area while maintaining the improvements made.

These measures shall take account, in particular, of the need for the training, information, consultation and balanced participation of workers as regards the risks incurred and the steps taken to eliminate or reduce them.

The provisions regarding implementation of the internal market shall help to ensure such protection.

[1] Published by the Office for Official Publications of the European Communities, catalogue number: CB-57-89-483-EN-C.

Action programme relating to the implementation of the Community Charter of the Fundamental Social Rights of Workers[1]

Health protection and safety at the workplace

Protection of health and safety in the working environment is ensured by means of technical regulations regarding products and equipment used by workers and by provisions regarding worker protection in the working environment.

Before the Single Act came into force there were already a number of directives applicable in the field of health and safety at work (notably protection against risks from asbestos, noise and lead).

Since October 1987, when the Commission adopted its programme concerning safety, hygiene and health at work which the Council welcomed in its resolution of 21 December 1987, 13 proposals for directives were submitted to the Council. Most of them have already been adopted, including Directive 89/391/EEC on improvements in the safety and health of workers at work, which is of particular importance.

Other proposals should be adopted during 1990 and 1991.

In parallel, the Community has developed the implementation of a new approach regarding technical regulation which entails, for example for industrial machines or for individual protective clothing, compulsory safety requirements for the protection of workers. The implementation of these requirements depends on European standards, in the definition of which workers' representatives are henceforth involved.

The Community already has, therefore, a series of binding provisions which ensure fairly broad protection for workers' health and safety at the workplace. It must be pointed out, moreover, that the Commission will propose, whenever necessary, amendments to the directives adopted to take account of developments occurring after their adoption (new substances, technical progress). Several such proposals will be presented in the next few years.

The Commission considers that priority should be given to new initiatives in areas where safety causes significant problems, notably the building industry, fisheries, drilling rigs and open-cast mines, the improvement of medical assistance on board vessels and also workplaces excluded from the specific workplace directive.

In addition, when freedom of movement develops further and the labour market takes on a European dimension, the Commission believes that the Member States should endeavour to approximate their ideas concerning the schedule of industrial diseases. There would doubtless be no question of introducing laws in an area closely connected with national social security systems. The Commission has adopted a Recommendation concerning the adoption of a European schedule of occupational diseases.

New initiatives

Proposal for a Council directive on the minimum health and safety requirements to encourage improved medical assistance on board vessels

Work on board vessels involves specific risks. The consequences of accidents are heightened given that medical equipment on board is often inadequate and much time is required for help and intervention from elsewhere.

The proposed directive aims to promote better worker safety and health on board vessels by improving medical assistance on board.

Proposal for a Council directive on the minimum health and safety requirements for work at temporary or mobile work sites

Major risks are involved in work on temporary and mobile sites.

The directive aims to incorporate health requirements from the initial stages of site design: it defines responsibilities as regards the safety and health of all persons operating on temporary and mobile work sites and lays down safety requirements for certain tasks.

Proposal for a Council directive on the minimum requirements to be applied in improving the safety and health of workers in the drilling industries

No steps have so far been taken at Community level to promote improvement in the safety and health of workers in the drilling industries.

Following the disaster in the North Sea on the Piper Alpha oil and natural gas drilling rig, in which the explosions and fire caused the death of 167 persons on 6 July 1988, Parliament requested the Commission to take suitable measures as soon as possible.

1 COM(89) 568 final, Brussels, 29 November 1989.

Proposal for a Council directive on the minimum requirements to be applied in improving the safety and health of workers in the quarrying and open-cast mining industries

There are no special Community measures covering the quarrying and open-cast mining industries.

The risks and accident rates are higher in these industries than in others and they are not covered by the first individual directive on the workplace pursuant to Article 16 (1) of Directive 89/391/EEC.

On this account steps should be taken at Community level to improve the safety and health protection of workers in these industries.

Proposal for a Council directive on the minimum safety and health requirements for fishing vessels

The risks connected with work on board fishing vessels are greater than those in other 'high-risk' occupations. The purpose of the proposed directive is to lay down minimum safety and health requirements in relation, in particular, to working procedures on board such vessels.

Proposal for a Council directive on the minimum requirements for safety and health signs at the workplace

The individual directive on workplaces establishes the minimum requirements for workplaces, but does not specifically cover the posting of signs. Some provisions on this subject already appear in Council Directive 77/575/EEC and Commission Directive 79/640/EEC. This proposal for a directive aims to revise and extend the abovementioned directives, updating the previous texts and adding a number of measures which are the result of technical progress.

Proposal for a Council directive defining a system of specific information for workers exposed to certain dangerous industrial agents

The proposal concerns the preparation of information sheets on dangerous agents. These sheets should be available whenever new substances are introduced.

This proposal defines the minimum requirements for the protection of workers and takes account of the work carried out by the ILO on chemical substances.

Information sheets on chemical substances are also required by the Council directives on the placing of chemical substances on the market, and these sheets are taken into consideration in this proposal for a directive.

Proposal for a Council directive on the minimum safety and health requirements regarding the exposure of workers to the risks caused by physical agents

Physical agents, such as vibration and electromagnetic radiation, give rise to risks which are often considered to be unacceptable. It often takes some time before effects which are damaging to health become apparent. A proposal will be made to introduce the preventive and corrective measures necessary to reduce the possibility of overexposure, accident and illness.

Proposal for a Council directive amending Directive 83/447/EEC on the protection of workers from the risks related to exposure to asbestos at work

Certain provisions are laid down by Directive 83/447/EEC to the effect that the Council, acting on a proposal from the Commission, must review this directive before 1 January 1990, taking into account, in particular, progress made in scientific knowledge and technology and in the light of the experience gained in applying this directive.

Proposal for a Council directive on the minimum safety and health requirements for activities in the transport sector

Activities in the transport sector often create dangerous working conditions, and transport-related maintenance, handling and loading work also expose workers to considerable risks. The proposal for a directive aims to set the minimum requirements for the prevention of dangerous situations and the protection of all the workers concerned.

Proposal for a Council directive supplementing the measures to encourage improvements in the safety and health at work of temporary workers

This proposal for a directive on temporary employment (employment governed by a fixed-duration contract and employment through temporary employment businesses) constitutes the health and safety aspect of the proposals for Council directives on certain employment relationships.

Its purpose is to ensure that, for the duration of the work performed in an undertaking and/or establishment making use of the services of the temporary worker, such worker is afforded, as regards health and safety at work, the same conditions as those of other workers in that undertaking and/or establishment, account being taken of particular situations.

Proposal for a Council directive concerning certain aspects of the organization of working time

In order to achieve improvement in the health and safety of workers certain minimum daily and weekly rest periods should be complied with for all workers in the Community.

This proposal for a directive applies to minimum daily, weekly and yearly rest periods and to certain aspects of night and shift work.

Proposal for a Council directive concerning the protection at work of pregnant women or women who have recently given birth

In the light of the framework directive on improvements in the safety and health of workers at work, women who are pregnant or have recently given birth must be considered a specific risk group in many respects.

The purpose of this proposal for a directive is to implement measures to encourage improvements in the safety and health of pregnant workers and women workers who have recently given birth.

Proposal for the establishment of a safety, hygiene and health agency

The Commission's programme concerning safety, hygiene and health at work is high on the list of priorities for a significant social policy initiative.

In its Resolution of 21 December 1987, the Council welcomed the Commission communication on its programme concerning safety, hygiene and health at work. Among other things, it requested the Commission to examine the possible ways of improving the exchange of information and experience in the field concerned, in particular as regards the gathering and dissemination of data and the advisability of setting up Community machinery to study the repercussions at national level of Community measures in the field of health and safety at work.

Moreover, this resolution called for an intensification of the cooperation with and between the bodies active in the field concerned.

The Council also stressed that it was fundamentally important for workers to be aware of the issues involved and to have access to information and, if necessary, to training if the measures recommended in the Commission's programme referred to above were to be successful.

Recognizing the dangers not only to health and safety, but also to the business environment and the labour markets of divergent health and safety conditions, employers' and workers' organizations have impressed upon the Commission the need to ensure that directives are implemented accurately, fully and equitably. They have also called for appropriate advice and assistance to be provided to undertakings and organizations concerned in order to help them comply with the requirements imposed by Community directives.

In order to satisfy these demands and whilst retaining its right to supervise the implementation of Community law, the Commission will set up a safety, hygiene and health agency which will provide support for the implementation of programmes relating to the workplace including technical and scientific assistance and coordination as well as assistance in the field of training. In so doing, it will bear in mind the existence and experience of the European Foundation for the Improvement of Living and Working Conditions (Dublin Foundation).

ANNEX

Texts

Detailed summary

Health and safety at work in the European Community

Texts

1. GENERAL TEXTS

1.1. Action programme

1.2. Committees

1.3. Information

2. DIRECTIVES

2.1. Safety and health at the workplace

2.2. Health and hygiene at work

3. 2. 88 Official Journal of the European Communities No C 28/3

COMMISSION

Commission communication on its programme concerning safety, hygiene and health at work

(88/C 28/02)

SUMMARY

In order to remain coherent and achieve its full impact, the creation of the internal market, 'the heart of the strategy to relaunch the construction of Europe', must incorporate a significant element of social policy, within which the physical and mental protection of workers stands high on the list of priorities. Taking full advantage of the opportunities afforded by the provisions of the Article 118A of the Single Act concerning the improvement of health and saftey at work, and confirming its commitment to making full and rapid use of all the resources put at its disposal by this legal provision, the Commission has adopted the following action programme.

I. INTRODUCTION

A. The situation in the Member States

1. Despite the absence of sufficiently reliable statistics for Europe as a whole, the data available at national level are adequate demonstration of the high cost in human and social terms of industrial accidents. The estimated level of compensation paid out in 1984 for occupational accidents and diseases was around 16 000 million ECU in the EEC as a whole, amounting to 7 % of total sickness insurance payments.

2. An analysis of efforts made within the Member States to reduce occupational accidents and diseases shows that many means of increasing awareness of health and safety have been employed, not only at manager and worker level within firms, but also among the public at large. Cooperation between management, health and safety services and workers and their representatives within firms has been constantly improved and more efficiently organized. The inclusion of safety considerations, right from the planning stage, is recognized as a necessity.

3. National legislation is increasingly reflecting the work carried out at Community level; at the same time, there is a growing tendency to lift restrictions intended to protect women at work, in the interests of equal employment opportunities for men and women.

4. General measures can be divided into those which, while not necessarily legislative, are aimed at improving installations in respect of work safety, removing the hazards presented by the use of tools and machinery, and protecting workers engaged in particulary dangerous tasks; secondly, protective measures for handling dangerous substances and finally, those enabling the appropriate advisory committees to ensure proper implementation of the legal and administrative provisions.

B. Community action

Under the EEC Treaty, the Commission has implemented two action programmes on safety and health at work since 1978.

These programmes were the subject of two Council resolutions:

The first of these, of 29 June 1978 (1), expressed the political will to enable a series of actions to be taken up to 1982 focussing on the aetiology substances, prevention of the dangers and harmful effects of machines, monitoring and inspection, and the improvement of human attitudes.

The second resolution, adopted on 27 February 1984 (2), was a continuation of the first action programme.

(1) OJ No C 165, 11. 7. 1978.
(2) OJ No C 67, 8. 3. 1984.

In this context, the Commission drafted 10 directives — seven of which have been adopted by the Council — on the protection of workers exposed to physical and chemical agents at work and the prevention of major accident hazards related to chemicals.

C. **Legal bases and content of the new work programme**

In order to confirm its will to reinforce the social dimension of the completion of the internal market, the Commission intends to develop its initiatives in the field of safety, hygiene and health at work, on the basis of Articles 117 and 118 of the EEC Treaty concerning social policy, and the specific provisions of the Single Act given in Article 118A (1) on the harmonization of improvements in the conditions of protection of the health and safety of workers, and Article 118B which stresses the need to promote the dialogue between the two sides of industry.

The Commission has therefore decided, without awaiting the expiry of the second action programme, to draw up a new work programme concentrating chiefly on the following five subjects:

— safety and ergonomics,

— health and hygiene,

— information and training,

— initiatives specifically directed at small and medium-sized enterprises,

— social dialogue.

II. THE PROGRAMME

A. **Safety and ergonomics at work**

1. *Completion of the internal market — removal of technical barriers*

In the White Paper on completing the internal market, the Commission took into account the 'underlying reasons for the existence of barriers to trade' and recognized in particular 'the overall equivalence of Member States legislative objectives in the protection of health and safety'.

The Commission has established and will continue close cooperation in defining essential safety requirements at the design and construction stages of new equipment.

Legislative harmonization will enable principal safety requirements to be established progressively, the necessary technical specifications being entrusted to organizations competent to deal with standardization. In view of the importance of the technical specifications for meeting the essential requirements for products used at work and the need to fully guarantee the dialogue between the two sides of industry on this question, the Commission will ensure adequate involvement of the trade unions in European standardization work and related activities.

2. *Promotion of safety at work and application of ergonomic principles*

(a) The Commission will prepare directives covering the organization of safety at work as well as the selection and use of appropriate plant, equipment, machinery and substances. In addition, the Commission will prepare a proposal for a Council decision regarding a system for the rapid exchange of information on specific safety hazards at work and the resulting restrictions placed on the use of dangerous substances, tools, equipment, etc.

(b) The Commission will prepare directives on personal protective equipment provided at the work place by the employer, with particular regard to appropriate use, user acceptability, availability, maintenance and testing.

(c) The Commission will revise the 1977 Directive on safety signs at work to bring it up to date and extend its scope.

(d) The Commission will put forward recommendations on the selection and use of equipment resulting from the development of new technologies and process control systems, with particular regard to the intrinsic safety of the equipment and ergonomic factors in its use.

(e) The Commission will prepare recommendations on good working practices aimed at avoiding

back pain and back injury caused by bad work place design resulting in physical strain, faulty handling of materials, incorrect lifting and falls.

3. *Safety in high-risk sectors*

From the high-risk sectors the Commission has focussed its attention on the three with the highest accident rate and highest level of serious injury.

(a) Work at sea:

Working and living conditions on board are particulary difficult: movement of the work area, limited space, long duration and high intensity of work, noise multiplicity of individual workers' tasks, geographic or meteorological isolation of the vessel, limiting the possibilities of assistance and thus exacerbating the consequences of accidents, all contribute to a higher fatal accident rate in the seafaring occupations than in other 'high-risk' jobs.

In view of this situation, which affects around 500 000 workers, urgent measures are envisaged in order to make safety a more integral part of the design of vessels and the definition of tasks and to ensure the availability of adequate medical assistance and emergency services at sea.

(b) Agriculture:

Agriculture employs around 10 million people in the Community. More than half of all work accidents occur in farmyards and farm buildings, in particular during the handling of animals, horizontal or vertical movements and the handling of tools, loads and pesticides. However, owing to their self-employed status, farmers are not covered or concerned by the regulations governing health and safety at work, even when such regulations apply to agriculture.

The Commission is drawing up a directive on plant-protection products and recommendations concerning the design of farm buildings and electrical installations in agriculture.

(c) The construction industry:

The construction industry (building and civil engineering) is an essential element of economic activity in the European Community and employs almost 10 million workers. The building sector is characterized by a high proportion of small firms, attracted by the low level of capital outlay needed. It is also an activity with a higher-than-average risk of accidents and occupational diseases. In addition, as the current system of bidding for contracts gives no specific indication of safety and health costs, it may encourage tenderers to propose working methods which are apparently cheaper but less safe, or to adopt such methods once the contract has been won. For these reasons, the traditional tripartite approach must be broadened to include designers and clients.

The Commission will prepare a directive on safety in the construction industry, wich will stress the need to incorporate safety requirements right from the initial design stage, to make health and safety aspects clearer in the tenders, to closely define responsability on construction sites and to establish safety-related qualification requirements for certain tasks.

B. Occupational health and hygiene

1. In order to guarantee that exposure of workers to physical factors, biological organisms and chemical substances is as low as reasonably achievable, and to enable the level of exposure to be monitored and measured, the Commission has forwarded to the Council a proposal for a directive establishing the basis for a Community list of exposure limit values for 100 agents (1).

The lists already drawn up by the Member States contain over 1 000 substances and the European Inventory of Existing Chemical Substances (EINECS) contains 100 000 entries.

The Commission intends to extend this list accordingly, and will carry out studies to collect and evaluate toxicological and health data for individual agents and their absorption pathways. The Commission will also examine ways and means of improving the collection of such data. In the case of special protective measures which may be required for those chemical agents which can be absorbed through the skin, the Commission will propose modifications to the existing directives.

(1) OJ No C 164, 2. 7. 1986.

2. In the case of agents likely to cause cancer, the Commission intends to submit to the Council a directive laying down general and specific measures relating to occupational carcinogens. Subsequent directives will be proposed for the other carcinogenic agents in line with ongoing work on the classification and labelling of chemical substances. The Commission will also submit proposals for directives on certain groups of compounds such as pesticides. A proposal for a directive will also have to be made on biological agents which cause ill health, such as pathogenic micro-organisms, and genetic engineering techniques which may present a risk to health.

3. Once the proposal for a Council directive on exposure limit values for 100 agents (see B (2)) has been adopted by the Council, detailed examination of the measures required — for example, technical analyses — must be carried out to ensure accurate determination of exposure levels. To this end, the Commission will request technical assistance from competent organizations such as CEN. Account will also be taken of the current work of the International Organizations Standards in this area. The Commission will also study ways of improving the measurement methods available.

4. For very dangerous agents or work activities, the Commission has already submitted a proposal for a directive to the Council, in which the conditions to be applied for the proscription of specific agents are set out. Studies will be carried out to determine the other agents and/or processes to be added to this directive.

5. The Commission is working on the technical aspects of the directive on noise, which will be implemented from 1990. A proposal will be submitted extending its field of application by including workers not currently covered and by re-evaluating the threshold values.

6. The proposed directive on the harmonizations of classification and labelling of dangerous preparations (1) emphasizes the need for information on the composition of such preparations and the hazards they present. The Commission will investigate what supplementary measures are required for the health protection of workers under Article 118A.

7. In 1962 and 1966 the Commission made recommendations to the Member States concerning a European Schedule of Industrial Diseases (2). This list must be revised to take account of subsequent improvements in the diagnosis of occupational diseases. The competent advisory committee is considering what improvements should be made to the Schedule and the Commission will make new recommendations to the Member States on the basis of its findings.

8. Legal provisions relating to occupational health services and their role in the protection of workers' health vary considerably between Member States. The appropriate advisory committee is currently preparing an opinion on the organization of these services and the respective roles of the various health and safety specialists, taking into account the previous work of the Economic and Social Committee. On the basis of this, the Commission intends to draft a recommendation on the subject.

C. **Information**

1. In its joint opinion on information and consultation, the Val Duchesse Working Party stated: 'When technological changes which imply major consequences for the work-force are introduced in the firm, workers and/or their representatives should be informed and consulted in accordance with the laws, agreements and practices in force in the Community countries'. The Commission considers this objective to be particularly important where such practices have a potential impact on health and safety.

2. In order to overcome the disparity of available information on chemical substances, the Commission intends to provide information on all the substances for which directives are proposed in the field of health and safety. This information, together with that provided by the labelling system for dangerous substances and preparations, will be examined in order to determine its best use.

3. The protection of workers requires that research results and technical innovations aimed at improving working conditions are applied with the cooperation of all parties involved.

To this end, the Commission will step up its work in the following fields:

— the evaluation of recent research, to select the most promising for application in pilot projects,

— the establishment of evaluation programmes with the cooperation in each case of two or more Member States,

(1) OJ No 196, 16. 8. 1967.
(2) OJ No 80, 31. 8. 1962, and OJ No 147, 9. 8. 1966.

— the development of methods of disseminating the results, particularly for high-risk activities such as deep-sea diving or offshore exploration.

4. Finally, the Commission intends to increase information, training and exchange of experience between senior labour inspectors responsible for national implementation of regulations derived from Community directives.

To this end, the regular meetings of the labour inspectors currently taking place at Community level will be formalized, seminars will be organized on specific topics, and the programme of exchange of inspectors between Member States will be expanded.

D. **Training**

1. The Commission recently submitted to the Council two communications on adult training in firms and vocational training for women. On the basis of the conclusions adopted by the Council, new action programmes will be drawn up in these areas, in which health and safety training at the workplace could be included.

In addition, with the assistance of the European Centre for the Development of Vocational Training (CEDEFOP), the Commission will give special priority to the development of courses for the training of safety instructors.

2. Considerable differences exist between the Member States in the safety training and official recognition of those responsible for safety and health protection (company managers, safety officers, ergonomics and health specialists, first aiders, workers representatives, etc.). The Commission proposes to continue to encourage training initiatives for these various groups based upon generally accepted principles and practice.

3. When developing and during the course of special youth training schemes aimed particularly at the unemployed the Commission will study the provisions necessary to ensure the safety of participants, including those combined work/training schemes.

4. At university, or in higher level technical education, the Commission will investigate ways of providing a full course of training in the appropriate safety precautions required for the future specialization of those who will be responsible for the safety of others, e.g. engineers, industrial chemists, and physicists.

5. In the high-risk sectors, the Commission has already developed a series of training modules for certain dangerous agricultural activities, and these have been tested in pilot projects. For sea fishing, financial and technical assistance has been provided for the development of the 'Medical Advice Centres Network' (Macnet), to extend the availability of medical assistance. The Commission intends to further develop these activities, which have a direct impact on these high-risk sectors.

6. To develop the training resources necessary to meet these various needs, the Commission intends to establish a network of collaboration centres involved in teaching the various disciplines and training workers and their representatives.

E. **Small and medium-sized enterprises**

1. The Community is devoting special attention to small and medium-sized enterprises, which are considered an essential element in economic recovery and job creation. The 'Action Programme for SMEs' stresses the need to keep regulations down to a necessary minimum. For its part, Article 118A of the Single European Act recognizes the special needs of SMEs in respect of safety and health problems.

In order to fulfil both these essential requirements, and in order to keep the directives from imposing administrative, financial and legal constraints which may hold back the creation and development of SMEs, the Commission intends:

— to undertake a study of how existing regulations on health and safety are interpreted and applied in a sample of SMEs,

— to undertake a review of the special rules and exceptions which exist in national legislation regarding health, hygiene and safety at work, and to assess the need for harmonization of legislation in this field in accordance with Article 118A of the Single European Act.

2. When faced with activities which have a high health and safety risk, SMEs do not always possess the technical know-how in accident prevention, training and monitoring are difficult to carry out and accidents can have serious economic consequences.

Any impetus towards new patterns of working can pose additional problems for such enterprises. Moreover, longer working hours in SMEs may lead to increased fatigue and a slackening of vigilance, increasing the risk of accidents. In addition, the measurement of exposure limits to dangerous agents, normally calculated on an eight-hour working day, may have to be adjusted.

The Commission therefore intends to study the effect of new patterns of working on safety, hygiene and health in SMEs.

3. The Commission is aware of the limited impact of information campaigns on the special rules and exceptions in health and safety legislation in SMEs. Furthermore, it would appear that efforts made within the Member States to provide advice and training on safety are not having the expected results.

To counter this, the Commission intends:

— to consider how health and safety regulations can be made clearer for proprietors of SMEs,

— to include advice on safety, hygiene and health at work in information manuals to be prepared for creators of SMEs,

— to prepare training modules on safety specifically for creators of SMEs, develop pilot projects integrating these modules into general training and provide for specific safety counselling,

— to develop a system for providing readily accessible information to SMEs on safety equipment and personal protective equipment.

F. **Social dialogue**

Development of Community action on health and safety and the balance which must be achieved between economic and social policy, as the large internal market is developed, both necessitate close collaboration between employer and worker representatives during the stages leading up to Commission decisions.

The Commission therefore intends to develop the dialogue between the two sides of industry in this field pursuant to Article 118B of the Single Act.

The Advisory Committee on Safety, Hygiene and Health Protection at Work, which has existed since 1974 (1), provides a highly appropriate forum for consultation between the two sides of industry. This Committee must play fully its part in assisting the Commission in defining the action it will take in this field. As in the past, the Commission will continue to consult the Committee on the proposals which it intends to present to the Council.

(1) OJ No L 185, 9. 7. 1974.

3. 2. 88 Official Journal of the European Communities No C 28/1

I

(Information)

COUNCIL

COUNCIL RESOLUTION

of 21 December 1987

on safety, hygiene and health at work

(88/C 28/01)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Whereas Article 118A of the Treaty establishing the European Economic Community sets the objective of harmonizing conditions, especially in the working environment, for protecting the health and safety of workers, while maintaining the improvements made;

Whereas, to this end, Article 118A stipulates that the Council, acting by a qualified majority on a proposal from the Commission, in cooperation with the European Parliament and after consulting the Economic and Social Committee, shall adopt, by means of directives, minimum requirements for gradual implementation, having regard to the conditions and technical rules obtaining in each of the Member States; whereas such directives shall avoid imposing administrative, financial and legal constraints in a way which would hold back the creation and development of small and medium-sized undertakings;

Whereas Article 118A will enable action at Community level as regards the improvement of the working environment to be intensified and expanded in order to protect the safety and health of workers;

Whereas the development of growth and the improvement of productivity at the level of both undertakings and the Community's economy depend *inter alia* on the quality of the working environment, the possibilities for workers to have an influence on the working environment in order to protect their safety and health and the motivation of workers;

Whereas Article 118A provides in particular for the improvement of safety and health conditions at work, which constitutes an essential feature of the social dimension of the internal market,

HAS ADOPTED THIS RESOLUTION:

I

The Council:

1. welcomes the Commission communication on its programme concerning safety, hygiene and health at work;

2. considers that this communication constitutes a useful framework for commencing implementation at Community level of Article 118A;

3. shares the Commission's opinion that the protection of the safety and health of workers must also include measures concerning ergonomics in connection with safety and health at work;

4. stresses the need:

   — to place equal emphasis on achieving the economic and social objectives of the completion of the internal market,

   — to coordinate Community and national measures concerning the achievement of these two objectives,

   notes in this context that the Commission has stated that it will take into account the social aspects of the proposals which it will submit with a view to the completion of the internal market.

II

1. The Council takes note of the measures contemplated by the Commission in its communication on safety, hygiene and health at work and to this end:

   (a) suggests that the Commission draw up practical plans of work, preferably on an annual basis, in close cooperation with the Member States and after consulting the Advisory Committee on Safety, Hygiene and Health Protection at Work;

   (b) takes note of the Commission's intention of submitting to it in the near future:

      (i) minimum requirements at Community level concerning:

         — the organization of the safety and health of workers at work including protection against risks resulting from the carrying of heavy loads by hand,

— protection against risks resulting from dangerous substances, including carcinogenic substances; in this connection, the principle of substitution using a recognized non-dangerous or less dangerous substance should be taken as a basis,

— the arrangement of the place of work;

(ii) other activities:

— harmonization of statistics on accidents at work and occupational diseases,

— a study on the organization by the Member States of means of control and of sanctions;

(c) also notes that the Commission intends to submit before 1992 a series of measures included in its programme on safety, hygiene and health at work.

2. The Council considers that when drawing up the plans of work, account should be taken of the following criteria in particular:

— the seriousness of the risks of accidents at work and/or occupational diseases,

— the number of workers exposed to risks,

— the possibilities for prevention.

3. The Council directives should lay stress on the enactment of the main provisions for the elimination of risks for workers at the place of work.

4. The Member States undertake to make available to the Commission the knowledge and experience available in the Member States *inter alia* to enable the Commission to improve the statements as regards the impact of its proposals on small and medium-sized undertakings.

To this end, the Commission is asked to maintain close contacts with national experts.

5. The social partners will be involved in the preparation of the directives, particularly the Advisory Committee on Safety, Hygiene and Health Protection at Work.

The social partners will also be involved, in accordance with national laws and practices, in:

— the implementation of the Council directives at national level,

— conceiving and implementing Member States' policies concerning the field covered by Article 118A,

— the organization of the working environment in undertakings to protect the safety and health of workers and the implementation of the corresponding arrangements for the protection of workers.

6. The Council stresses that the information, increased awareness and, if necessary, the training of employers and workers will play a fundamental role in the success of the measures recommended in the Commission's communication on its programme on safety, hygiene and health at work.

7. In order to assist and expedite the implementation of the safety and health measures, the Member States will examine the possibility of measures in favour of undertakings in order to prompt the latter to implement preventive measures.

8. The Commission is requested to examine how the exchange of information and experience in the field covered by this resolution can be improved, particularly as regards the gathering and dissemination of data.

At the same time, the Commission is invited to examine the advisability of setting up Community machinery to study the repercussions at national level of Community measures in the field of health and safety at work.

Cooperation with and between bodies with tasks in the field covered by this resolution should be intensified.

9. The Council:

— acknowledges the predominant role of the heightening of public awareness for the success of the measures recommended in the Commission's communication on its programme on safety, hygiene and health at work,

— agrees to suggest that a European year in this field be organized in 1992.

31.8.57 EUROPEAN COAL AND STEEL COMMUNITY 487/57

COUNCIL OF MINISTERS

DECISION

concerning the terms of reference and rules of procedure of the Mines Safety Commission

Having noted the recommendations adopted by the Conference on Safety in Coal Mines and the proposals submitted by the High Authority in the light of the final report of this Conference, which constitute a useful basis for the improvement of safety in coal mines;

Having regard to their decisions taken at the 36th and 42nd Sessions of the Council on 6 September 1956 and 9 and 10 May 1957 to create the Mines Safety Commission;

THE REPRESENTATIVES OF THE GOVERNMENTS OF THE MEMBER STATES, MEETING WITHIN THE SPECIAL COUNCIL OF MINISTERS,

— define the terms of reference of that Safety Commission as follows:

1. The Safety Commission shall follow developments in safety in coal mines, including safety regulations made by the public authorities, and shall assemble the necessary information on progress made and practical results obtained, particularly in the field of accident prevention.

In order to obtain the necessary information, the Safety Commission shall apply to the Governments concerned.

The Safety Commission shall make use of the information in its possession, and shall submit proposals to the Governments for the improvement of safety in coal mines.

2. The Safety Commission shall assist the High Authority in seeking a method of compiling comparable statistics on accidents.

3. The Safety Commission shall ensure that the appropriate information assembled by it is swiftly communicated to the quarters concerned (in particular the administrative bodies in mines, and employers' and workers' organisations).

4. The Safety Commission shall, by regular contact with the Governments, keep itself informed of steps taken to follow up proposals made by the Conference on Safety in Coal Mines, and also those drawn up by itself.

5. The Safety Commission shall propose such studies and research as seem to it to be most appropriate for improving safety, and shall specify how best they may be put into effect.

6. The Safety Commission shall facilitate the exchange of information and of experience between the persons responsible for safety, and shall propose measures appropriate to such end (e.g. study visits, setting up of documentation services).

7. The Safety Commission shall propose suitable measures for establishing the necessary liaison between the rescue services of the Community countries.

8. The Safety Commission shall submit an annual report to the Governments meeting within the Council, and to the High Authority, on its activities and on developments in the field of safety in the coal mines of the various Member States. At such time it shall in particular study the statistics compiled on the subject of accidents and incidents in coal mines:

— lay down the rules of procedure for this Commission which are annexed to the present Decision,

— request the High Authority to ensure that this Commission commence work with the least possible delay.

This Decision was adopted at the 44th Session of the Council, held on 9 July 1957.

For the Council

The President

J. REY

ANNEX

RULES OF PROCEDURE

of the Mines Safety Commission

Chairmanship

Article 1

The chairmanship of the Mines Safety Commission shall be held by a member of the High Authority of the European Coal and Steel Community.

Article 2

The Chairman shall direct the work of the Safety Commission in conformity with the present rules of procedure.

Composition

Article 3

The Safety Commission shall have twenty-four members appointed by the Governments (i.e. for each country four members consisting of two representatives of the national governments and one representative of employers and workers respectively).

Each Government shall communicate, in writing, to the Chairman, the list of names of the members whom it has appointed. Any alterations to that list shall be notified to the Chairman.

For every meeting of the Safety Commission each Government may appoint one or two advisers, whose names shall be communicated to the Chairman.

Participation of the International Labour Organisation

Article 4

Representatives of the International Labour Organisation shall be invited to participate in the work of the Safety Commission in an advisory capacity.

Participation of the United Kingdom

Article 5

Delegates appointed by the Government of the United Kingdom may participate in the work of the Safety Commission as observers.

Organisation

A. SELECT COMMITTEE

Article 6

A Select Committee is hereby set up, composed of the Government representatives on the Safety Commission.

Article 7

The Chairman of the Safety Commission shall be Chairman of the Select Committee.

Article 8

The task of the Select Committee shall be to ensure permanent liaison between the governments of Member States on the one hand, and between the latter and the Safety Commission on the other, particularly for the purpose of achieving a useful exchange of information. It shall supervise the preparation of the work of the Safety Commission.

Article 9

The Chairman shall convene the Select Committee.

The Select Committee shall be convened by the Chairman whenever at least three Government representatives request a meeting.

B. WORKING PARTIES

Article 10

In order to examine certain questions of a technical nature, the Safety Commission or the Select Committee may set up working parties composed of experts.

Article 11

The working parties shall determine their own working methods.

Article 12

The results of the work of the working parties, presented in the form of reports, shall be put before the Select

Committee. It shall submit such reports to the Safety Commission together with the opinions of the Committee members.

In the event of differences of opinion within the working parties, note shall be taken of the opinions expressed together with the names of the experts expressing them.

Secretarial services

Article 13

The High Authority shall provide secretarial services for the Safety Commission, the Select Committee and the working parties.

The secretarial services shall be directed by an official of the High Authority, appointed as secretary.

All documents shall be drafted in the four official languages of the Community.

Operation

Article 14

The Chairman shall draw up the draft agenda, and the dates of meetings, after consultations with the members of the Select Committee.

Article 15

When requested, the Chairman shall grant leave to speak to the members of the Safety Commission, to representatives of the International Labour Organisation and to United Kingdom observers.

The Chairman may grant advisers leave to speak.

Article 16

The members of the High Authority shall be entitled to participate in, and to speak at meetings of, the Safety Commission and of the Select Committee.

The Chairman may be accompanied by advisers, to whom he may grant leave to speak.

Article 17

When the Safety Commission or the Select Committee shall consider it desirable to assemble information relating to the various aspects of safety in mines, it shall address requests to this effect to the Governments of the Member States.

Article 18

Proceedings shall only be valid if at least sixteen members are present. Resolutions shall be passed by a majority of the members present.

However, proposals from the Safety Commission made in conformity with paragraph 1(3) of its terms of reference shall be approved by two-thirds of the members present; such proposals shall carry at least thirteen votes.

Any dissenting opinions shall be brought to the notice of the Governments, should the members concerned so request.

II

(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DECISION

of 27 June 1974

on the setting up of an Advisory Committee on Safety, Hygiene and Health Protection at Work

(74/325/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 145 thereof ;

Having regard to the draft of the Commission ;

Having regard to the Opinion of the European Parliament (1) ;

Having regard to the Opinion of the Economic and Social Committee ;

Whereas the profound transformation in production methods in all sectors of the economy and the spread of dangerous techniques and materials have created new problems for the safety, hygiene and health protection of workers at their place of work ;

Whereas the prevention of occupational accidents and diseases, as well as occupational hygiene, are among the objectives of the Treaty establishing the European Economic Community ;

Whereas the Council resolution of 21 January 1974 (2) concerning a social action programme envisages an action programme for workers which aims *inter alia* at improvement in safety and health conditions at work ;

Whereas a standing body should be envisaged to assist the Commission in the preparation and implementation of activities in the fields of safety, hygiene and health protection at work and to facilitate cooperation between national administrations, trades unions and employers' organizations ;

Whereas this Decision does not conflict with Article 118 of the Treaty establishing the European Economic Community,

HAS DECIDED AS FOLLOWS :

Article 1

An Advisory Committee on Safety, Hygiene and Health Protection at Work (hereinafter called the 'Committee') is hereby established.

Article 2

1. The Committee shall have the task of assisting the Commission in the preparation and implementation of activities in the fields of safety, hygiene and health protection at work.

This task shall cover all sectors of the economy except the mineral extracting industries falling within the responsibility of the Mines Safety and Health Commission and except the protection of the health of workers against the dangers arising from ionizing radiations which is subject to special regulations pursuant to the Treaty establishing the European Atomic Energy Community.

(1) OJ No C 40, 8. 4. 1974, p. 64.
(2) OJ No C 13, 12. 2. 1974, p. 1.

2. The Committee shall have the task in particular, of undertaking the following activities :

(a) conducting, on the basis of information available to it, exchanges of views and experience regarding existing or planned regulations ;

(b) contributing towards the development of a common approach to problems existing in the fields of safety, hygiene and health protection at work and towards the choice of Community priorities as well as measures necessary for implementing them ;

(c) drawing the Commission's attention to areas in which there is an apparent need for the acquisition of new knowledge and for the implementation of appropriate educational and research projects ;

(d) defining, within the framework of Community action programmes, and in cooperation with the Mines Safety and Health Commission :

— the criteria and aims of the campaign against the risk of accidents at work and health hazards within the undertaking ;

— methods enabling undertakings and their employees to evaluate and to improve the level of protection ;

(e) contributing towards keeping national adminstrations, trades unions and employers' organizations informed of Community measures in order to facilitate their cooperation and to encourage initiatives promoted by them aiming at exchanges of experience and at laying down codes of practice.

Article 3

1. The Committee shall produce an annual report on its activities.

2. The Commission shall forward that report to the European Parliament, the Council, the Economic and Social Committee and the Consultative Committee of the European Coal and Steel Community.

Article 4

1. The Committee shall consist of 54 full members, there being for each Member State two representatives of the Government, two representatives of trade unions and two representatives of employers' organizations.

2. An alternate member shall be appointed for each full member.

Without prejudice to Article 6 (3), the alternative member shall attend Committee meetings only when the member for whom he deputizes is unable to be present.

3. Full members and alternate members of the Committee shall be appointed by the Council which, in respect of representatives of trade unions and employers' associations, shall endeavour to achieve a fair balance in the composition of the Committee between the various economic sectors concerned.

4. The list of the members and the alternate members shall be published by the Council in the *Official Journal of the European Communities* for information purposes.

Article 5

1. The term of office of full members and alternate members shall be three years. Their appointments shall be renewable.

2. On expiry of their term of office, the full members and alternate members shall remain in office until they are replaced or their appointments are renewed.

3. A member's term of office shall end before the expiry of the three year period with his resignation or following a communication from the Member State concerned indicating that the term of office is terminated.

For the remainder of the term of office, a member shall be replaced in accordance with the procedure laid down in Article 4.

Article 6

1. The Committee shall be chaired by a member of the Commission or, where such member is prevented from so doing and as an exception, by a Commission official to be nominated by him. The Chairman shall not vote.

2. The Committee shall meet when convened by the Chairman, either at the latter's initiative or at the request of at least one-third of its members.

3. The Chairman may, on his own initiative, invite up to two experts to participate in Committee meetings.

Each Committee member may be accompanied by an expert, provided that he so informs the Chairman at least three days before the Committee meeting.

4. The Committee may establish working parties under the chairmanship of a Committee member.

They shall submit the results of their proceedings in the form of a report at a meeting of the Committee.

5. Representatives of the Commission's department concerned shall participate in meetings of the Committee and of working parties.

Secretarial services shall be provided for the Committee and for working parties by the Commission.

Article 7

1. An opinion delivered by the Committee shall not be valid unless two-thirds of its members are present.

2. Opinions of the Committee shall state the reasons on which they are based; they shall be delivered by an absolute majority of the votes validly cast. They shall be accompanied by a written statement of the views expressed by the minority, when the latter so requests.

Article 8

The Committee shall adopt its rules of procedure which shall enter into force after the Council, having received an opinion from the Commission, has given its approval.

Article 9

Without prejudice to Article 214 of the Treaty, Committee members shall be required not to disclose information to which they have gained access through Committee or working party proceedings, if the Commission informs them that the opinion requested or the question raised is of a confidential nature.

In such cases, only Committee members and representatives of the Commission's department shall attend the meetings concerned.

Article 10

This Decision shall enter into force on the fifth day following its publication in the *Official Journal of the European Communities*.

Done at Luxembourg, 27 June 1974.

For the Council

The President

K. GSCHEIDLE

COUNCIL DECISION

of 27 June 1974

on the extension of the responsibilities of the Mines Safety and Health Commission to all mineral-extracting industries

(74/326/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 145 thereof;

Having regard to the draft of the Commission;

Having regard to the Opinion of the European Parliament (1);

Having regard to the Opinion of the Economic and Social Committee;

Whereas the representatives of the Governments of the Member States meeting within the special Council of Ministers, by Decision of 9 and 10 May 1957, set up a Mines Safety and Health Commission whose terms of reference as laid down by Decision of 9 July 1957 (2) of the representatives of the Governments of the Member States meeting within the Special Council of Ministers, amended by Decision of 11 March 1965 (3) are to follow developments in safety and in the prevention of occupational risks to health in coal mines and to draw up proposals appropriate for the improvement of safety and health in coal mines;

Whereas this body has proved to be an effective and suitable instrument for safeguarding the health and safety of workers in coal mines;

Whereas problems of safety similar to those in coal mines also exist in other mineral-extracting industries;

Whereas the prevention of occupational accidents and diseases, as well as occupational hygiene, are among the objectives of the Treaty establishing the European Economic Community;

Whereas the Council resolution of 21 January 1974 (4) concerning a social action programme envisages an action programme for workers which aims *inter alia* at improvement in safety and health conditions at work;

Whereas the Safety and Health Commission should be assigned the task of extending to all mineral-extracting industries the preventive action which has hitherto been confined to coal mines;

Whereas the representatives of the Governments of the Member States meeting within the Council agreed to assign this task to the Safety and Health Commission,

HAS DECIDED AS FOLLOWS:

Article 1

1. Preventive action against risks of accident and occupational risks to the safety and health of workers in all mineral-extracting industries except simple excavation, excluding the protection of the health of workers against the dangers arising from ionizing radiations which is subject to special regulations pursuant to the Treaty establishing the European Atomic Energy Community shall be the responsibility of the Mines Safety and Health Commission within the terms of reference laid down by Decision of 11 March 1965 of the representatives of the Governments of the Member States meeting within the special Council of Ministers.

2. Mineral-extracting industries shall be taken to mean the activities of prospecting and of extraction in the strict sense of the word as well as of preparation of extracted materials for sale (crushing, screening, washing), but not the processing of such extracted materials.

3. Simple excavation shall be taken to mean work whose purpose is not the extraction of materials for use.

(1) OJ No C 40, 8. 4. 1974, p. 64.
(2) OJ No 28, 31. 8. 1957, p. 487/57.
(3) OJ No 46, 22. 3. 1965, p. 698/65.
(4) OJ No C 13, 12. 2. 1974, p. 1.

Article 2

1. This Decision shall enter into force on the fifth day following its publication in the *Official Journal of the European Communities*.

2. It shall apply:

— to the underground activities of the mineral-extracting industries: as from the day laid down in paragraph 1,

— to the other activities of the mineral-extracting industries: as from 1 January 1976.

Done at Luxembourg, 27 June 1974.

For the Council

The President

K. GSCHEIDLE

COMMISSION

COMMISSION DECISION

of 24 February 1988

providing for the improvement of information on safety, hygiene and health at work

(88/383/EEC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 118 thereof,

Whereas it is essential for the Commission to have the necessary information at its disposal before the adoption by the Member States of laws, regulations and administrative provisions on safety, hygiene and health at work; whereas, in certain cases, all the Member States must also be informed of the laws, regulations and administrative provisions contemplated by any one Member State;

Whereas Council Directive 83/189/EEC (1) provided for a system of information in the field of technical standards and regulations, including those relating to safety, hygiene and health at work;

Whereas it would appear necessary to supplement this procedure by the improvement of information on other laws, regulations and administrative provisions provided for under this Decision;

Whereas it is necessary to set up a group of experts, the members of which will be nominated by the Member States, with the task of helping the Commission to examine draft national laws, regulations and administrative provisions,

HAS ADOPTED THIS DECISION:

Article 1

The Member States shall inform the Commission without delay on any laws, regulations and administrative provisions on safety, hygiene and health at work and of any draft laws, regulations and administrative provisions in this field, with the exception of draft technical regulations as defined in Article 1 (6) of Directive 83/189/EEC. The Member States shall also submit any other provisions referred to in this field.

Article 2

1. The Commission shall forward to the Member States any draft laws, regulations and administrative provisions which it receives under Article 1 and which it considers relevant for the purpose of the present Decision.

2. The Commission and the other Member States may submit observations to the Member State whose draft provisions they have received under paragraph 1; the Member State concerned shall take these observations into consideration as far as possible. Member States shall forward their observations through the Commission.

Article 3

The Commission shall be assisted by a group of experts chaired by a representative of the Commission. The group shall be composed of 24 members, each Member State nominating two experts for appointment by the Commission. For each member an alternate member shall be appointed as described above.

Article 4

The Commission shall periodically inform the Advisory Committee on Safety, Hygiene and Health Protection at work of any activities arising from the implementation of this Decision, with the exception of any aspects deemed confidential by the Member States, and, where appropriate, the Standing Committee set up pursuant to Article 5 of Directive 83/189/EEC.

Article 5

This Decision is addressed to the Member States.

Done at Brussels, 24 February 1988.

For the Commission

Manuel MARÍN

Vice-President

(1) OJ No L 109, 26. 4. 1983, p. 8.

29. 6. 89 Official Journal of the European Communities No L 183/1

II

(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DIRECTIVE

of 12 June 1989

on the introduction of measures to encourage improvements in the safety and health of workers at work

(89/391/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 118a thereof,

Having regard to the proposal from the Commission (1), drawn up after consultation with the Advisory Committee on Safety, Hygiene and Health Protection at Work,

In cooperation with the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas Article 118a of the Treaty provides that the Council shall adopt, by means of Directives, minimum requirements for encouraging improvements, especially in the working environment, to guarantee a better level of protection of the safety and health of workers;

Whereas this Directive does not justify any reduction in levels of protection already achieved in individual Member States, the Member State being committed, under the Treaty, to encouraging improvements in conditions in this area and to harmonizing conditions while maintaining the improvements made;

Whereas it is known that workers can be exposed to the effects of dangerous environmental factors at the work place during the course of their working life;

Whereas, pursuant to Article 118a of the Treaty, such Directives must avoid imposing administrative, financial and legal constraints which would hold back the creation and development of small and medium-sized undertakings;

Whereas the communication from the Commission on its programme concerning safety, hygiene and health at work (4) provides for the adoption of Directives designed to guarantee the safety and health of workers;

Whereas the Council, in its resolution of 21 December 1987 on safety, hygiene and health at work (5), took note of the Commission's intention to submit to the Council in the near future a Directive on the organization of the safety and health of workers at the work place;

Whereas in February 1988 the European Parliament adopted four resolutions following the debate on the internal market and worker protection; whereas these resolutions specifically invited the Commission to draw up a framework Directive to serve as a basis for more specific Directives covering all the risks connected with safety and health at the work place;

Whereas Member States have a responsibility to encourage improvements in the safety and health of workers on their territory; whereas taking measures to protect the health and safety of workers at work also helps, in certain cases, to preserve the health and possibly the safety of persons residing with them;

(1) OJ No C 141, 30. 5. 1988, p. 1.
(2) OJ No C 326, 19. 12. 1988, p. 102, and OJ No C 158, 26. 6. 1989.
(3) OJ No C 175, 4. 7. 1988, p. 22.
(4) OJ No C 28, 3. 2. 1988, p. 3.
(5) OJ No C 28, 3. 2. 1988, p. 1.

Whereas Member States' legislative systems covering safety and health at the work place differ widely and need to be improved; whereas national provisions on the subject, which often include technical specifications and/or self-regulatory standards, may result in different levels of safety and health protection and allow competition at the expense of safety and health;

Whereas the incidence of accidents at work and occupational diseases is still too high; whereas preventive measures must be introduced or improved without delay in order to safeguard the safety and health of workers and ensure a higher degree of protection;

Whereas, in order to ensure an improved degree of protection, workers and/or their representatives must be informed of the risks to their safety and health and of the measures required to reduce or eliminate these risks; whereas they must also be in a position to contribute, by means of balanced participation in accordance with national laws and/or practices, to seeing that the necessary protective measures are taken;

Whereas information, dialogue and balanced participation on safety and health at work must be developed between employers and workers and/or their representatives by means of appropriate procedures and instruments, in accordance with national laws and/or practices;

Whereas the improvement of workers' safety, hygiene and health at work is an objective which should not be subordinated to purely economic considerations;

Whereas employers shall be obliged to keep themselves informed of the latest advances in technology and scientific findings concerning work-place design, account being taken of the inherent dangers in their undertaking, and to inform accordingly the workers' representatives exercising participation rights under this Directive, so as to be able to guarantee a better level of protection of workers' health and safety;

Whereas the provisions of this Directive apply, without prejudice to more stringent present or future Community provisions, to all risks, and in particular to those arising from the use at work of chemical, physical and biological agents covered by Directive 80/1107/EEC (1), as last amended by Directive 88/642/EEC (2);

Whereas, pursuant to Decision 74/325/EEC (3), the Advisory Committee on Safety, Hygiene and Health Protection at Work is consulted by the Commission on the drafting of proposals in this field;

Whereas a Committee composed of members nominated by the Member States needs to be set up to assist the Commission in making the technical adaptations to the individual Directives provided for in this Directive,

HAS ADOPTED THIS DIRECTIVE:

SECTION I

GENERAL PROVISIONS

Article 1

Object

1. The object of this Directive is to introduce measures to encourage improvements in the safety and health of workers at work.

2. To that end it contains general principles concerning the prevention of occupational risks, the protection of safety and health, the elimination of risk and accident factors, the informing, consultation, balanced participation in accordance with national laws and/or practices and training of workers and their representatives, as well as general guidelines for the implementation of the said principles.

3. This Directive shall be without prejudice to existing or future national and Community provisions which are more favourable to protection of the safety and health of workers at work.

Article 2

Scope

1. This Directive shall apply to all sectors of activity, both public and private (industrial, agricultural, commercial, administrative, service, educational, cultural, leisure, etc.).

2. This Directive shall not be applicable where characteristics peculiar to certain specific public service activities, such as the armed forces or the police, or to certain specific activities in the civil protection services inevitably conflict with it.

In that event, the safety and health of workers must be ensured as far as possible in the light of the objectives of this Directive.

(1) OJ No L 327, 3. 12. 1980, p. 8.
(2) OJ No L 356, 24. 12. 1988, p. 74.
(3) OJ No L 185, 9. 7. 1974, p. 15.

Article 3

Definitions

For the purposes of this Directive, the following terms shall have the following meanings:

(a) worker: any person employed by an employer, including trainees and apprentices but excluding domestic servants;

(b) employer: any natural or legal person who has an employment relationship with the worker and has responsibility for the undertaking and/or establishment;

(c) workers' representative with specific responsibility for the safety and health of workers: any person elected, chosen or designated in accordance with national laws and/or practices to represent workers where problems arise relating to the safety and health protection of workers at work;

(d) prevention: all the steps or measures taken or planned at all stages of work in the undertaking to prevent or reduce occupational risks.

Article 4

1. Member States shall take the necessary steps to ensure that employers, workers and workers' representatives are subject to the legal provisions necessary for the implementation of this Directive.

2. In particular, Member States shall ensure adequate controls and supervision.

SECTION II

EMPLOYERS' OBLIGATIONS

Article 5

General provision

1. The employer shall have a duty to ensure the safety and health of workers in every aspect related to the work.

2. Where, pursuant to Article 7 (3), an employer enlists competent external services or persons, this shall not discharge him from his responsibilities in this area.

3. The workers' obligations in the field of safety and health at work shall not affect the principle of the responsibility of the employer.

4. This Directive shall not restrict the option of Member States to provide for the exclusion or the limitation of employers' responsibility where occurrences are due to unusual and unforeseeable circumstances, beyond the employers' control, or to exceptional events, the consequences of which could not have been avoided despite the exercise of all due care.

Member States need not exercise the option referred to in the first subparagraph.

Article 6

General obligations on employers

1. Within the context of his responsibilities, the employer shall take the measures necessary for the safety and health protection of workers, including prevention of occupational risks and provision of information and training, as well as provision of the necessary organization and means.

The employer shall be alert to the need to adjust these measures to take account of changing circumstances and aim to improve existing situations.

2. The employer shall implement the measures referred to in the first subparagraph of paragraph 1 on the basis of the following general principles of prevention:

(a) avoiding risks;

(b) evaluating the risks which cannot be avoided;

(c) combating the risks at source;

(d) adapting the work to the individual, especially as regards the design of work places, the choice of work equipment and the choice of working and production methods, with a view, in particular, to alleviating monotonous work and work at a predetermined work-rate and to reducing their effect on health.

(e) adapting to technical progress;

(f) replacing the dangerous by the non-dangerous or the less dangerous;

(g) developing a coherent overall prevention policy which covers technology, organization of work, working conditions, social relationships and the influence of factors related to the working environment;

(h) giving collective protective measures priority over individual protective measures;

(i) giving appropriate instructions to the workers.

3. Without prejudice to the other provisions of this Directive, the employer shall, taking into account the nature of the activities of the enterprise and/or establishment:

(a) evaluate the risks to the safety and health of workers, *inter alia* in the choice of work equipment, the chemical substances or preparations used, and the fitting-out of work places.

Subsequent to this evaluation and as necessary, the preventive measures and the working and production methods implemented by the employer must:

— assure an improvement in the level of protection afforded to workers with regard to safety and health,

— be integrated into all the activities of the undertaking and/or establishment and at all hierarchical levels;

(b) where he entrusts tasks to a worker, take into consideration the worker's capabilities as regards health and safety;

(c) ensure that the planning and introduction of new technologies are the subject of consultation with the workers and/or their representatives, as regards the consequences of the choice of equipment, the working conditions and the working environment for the safety and health of workers;

(d) take appropriate steps to ensure that only workers who have received adequate instructions may have access to areas where there is serious and specific danger.

4. Without prejudice to the other provisions of this Directive, where several undertakings share a work place, the employers shall cooperate in implementing the safety, health and occupational hygiene provisions and, taking into account the nature of the activities, shall coordinate their actions in matters of the protection and prevention of occupational risks, and shall inform one another and their respective workers and/or workers' representatives of these risks.

5. Measures related to safety, hygiene and health at work may in no circumstances involve the workers in financial cost.

Article 7

Protective and preventive services

1. Without prejudice to the obligations referred to in Articles 5 and 6, the employer shall designate one or more workers to carry out activities related to the protection and prevention of occupational risks for the undertaking and/or establishment.

2. Designated workers may not be placed at any disadvantage because of their activities related to the protection and prevention of occupational risks.

Designated workers shall be allowed adequate time to enable them to fulfil their obligations arising from this Directive.

3. If such protective and preventive measures cannot be organized for lack of competent personnel in the undertaking and/or establishment, the employer shall enlist competent external services or persons.

4. Where the employer enlists such services or persons, he shall inform them of the factors known to affect, or suspected of affecting, the safety and health of the workers and they must have access to the information referred to in Article 10 (2).

5. In all cases:

— the workers designated must have the necessary capabilities and the necessary means,

— the external services or persons consulted must have the necessary aptitudes and the necessary personal and professional means, and

— the workers designated and the external services or persons consulted must be sufficient in number

to deal with the organization of protective and preventive measures, taking into account the size of the undertaking and/or establishment and/or the hazards to which the workers are exposed and their distribution throughout the entire undertaking and/or establishment.

6. The protection from, and prevention of, the health and safety risks which form the subject of this Article shall be the responsibility of one or more workers, of one service or of separate services whether from inside or outside the undertaking and/or establishment.

The worker(s) and/or agency(ies) must work together whenever necessary.

7. Member States may define, in the light of the nature of the activities and size of the undertakings, the categories of undertakings in which the employer, provided he is competent, may himself take responsibility for the measures referred to in paragraph 1.

8. Member States shall define the necessary capabilities and aptitudes referred to in paragraph 5.

They may determine the sufficient number referred to in paragraph 5.

Article 8

First aid, fire-fighting and evacuation of workers, serious and imminent danger

1. The employer shall:

— take the necessary measures for first aid, fire-fighting and evacuation of workers, adapted to the nature of the

activities and the size of the undertaking and/or establishment and taking into account other persons present,

— arrange any necessary contacts with external services, particularly as regards first aid, emergency medical care, rescue work and fire-fighting.

2. Pursuant to paragraph 1, the employer shall, *inter alia*, for first aid, fire-fighting and the evacuation of workers, designate the workers required to implement such measures.

The number of such workers, their training and the equipment available to them shall be adequate, taking account of the size and/or specific hazards of the undertaking and/or establishment.

3. The employer shall:

(a) as soon as possible, inform all workers who are, or may be, exposed to serious and imminent danger of the risk involved and of the steps taken or to be taken as regards protection;

(b) take action and give instructions to enable workers in the event of serious, imminent and unavoidable danger to stop work and/or immediately to leave the work place and proceed to a place of safety;

(c) save in exceptional cases for reasons duly substantiated, refrain from asking workers to resume work in a working situation where there is still a serious and imminent danger.

4. Workers who, in the event of serious, imminent and unavoidable danger, leave their workstation and/or a dangerous area may not be placed at any disadvantage because of their action and must be protected against any harmful and unjustified consequences, in accordance with national laws and/or practices.

5. The employer shall ensure that all workers are able, in the event of serious and imminent danger to their own safety and/or that of other persons, and where the immediate superior responsible cannot be contacted, to take the appropriate steps in the light of their knowledge and the technical means at their disposal, to avoid the consequences of such danger.

Their actions shall not place them at any disadvantage, unless they acted carelessly or there was negligence on their part.

Article 9

Various obligations on employers

1. The employer shall:

(a) be in possession of an assessment of the risks to safety and health at work, including those facing groups of workers exposed to particular risks;

(b) decide on the protective measures to be taken and, if necessary, the protective equipment to be used;

(c) keep a list of occupational accidents resulting in a worker being unfit for work for more than three working days;

(d) draw up, for the responsible authorities and in accordance with national laws and/or practices, reports on occupational accidents suffered by his workers.

2. Member States shall define, in the light of the nature of the activities and size of the undertakings, the obligations to be met by the different categories of undertakings in respect of the drawing-up of the documents provided for in paragraph 1 (a) and (b) and when preparing the documents provided for in paragraph 1 (c) and (d).

Article 10

Worker information

1. The employer shall take appropriate measures so that workers and/or their representatives in the undertaking and/or establishment receive, in accordance with national laws and/or practices which may take account, *inter alia*, of the size of the undertaking and/or establishment, all the necessary information concerning:

(a) the safety and health risks and protective and preventive measures and activities in respect of both the undertaking and/or establishment in general and each type of workstation and/or job;

(b) the measures taken pursuant to Article 8 (2).

2. The employer shall take appropriate measures so that employers of workers from any outside undertakings and/or establishments engaged in work in his undertaking and/or establishment receive, in accordance with national laws and/or practices, adequate information concerning the points referred to in paragraph 1 (a) and (b) which is to be provided to the workers in question.

3. The employer shall take appropriate measures so that workers with specific functions in protecting the safety and health of workers, or workers' representatives with specific responsibility for the safety and health of workers shall have access, to carry out their functions and in accordance with national laws and/or practices, to:

(a) the risk assessment and protective measures referred to in Article 9 (1) (a) and (b);

(b) the list and reports referred to in Article 9 (1) (c) and (d);

(c) the information yielded by protective and preventive measures, inspection agencies and bodies responsible for safety and health.

Article 11

Consultation and participation of workers

1. Employers shall consult workers and/or their representatives and allow them to take part in discussions on all questions relating to safety and health at work.

This presupposes:

— the consultation of workers,

— the right of workers and/or their representatives to make proposals,

— balanced participation in accordance with national laws and/or practices.

2. Workers or workers' representatives with specific responsibility for the safety and health of workers shall take part in a balanced way, in accordance with national laws and/or practices, or shall be consulted in advance and in good time by the employer with regard to:

(a) any measure which may substantially affect safety and health;

(b) the designation of workers referred to in Articles 7 (1) and 8 (2) and the activities referred to in Article 7 (1);

(c) the information referred to in Articles 9 (1) and 10;

(d) the enlistment, where appropriate, of the competent services or persons outside the undertaking and/or establishment, as referred to in Article 7 (3);

(e) the planning and organization of the training referred to in Article 12.

3. Workers' representatives with specific responsibility for the safety and health of workers shall have the right to ask the employer to take appropriate measures and to submit proposals to him to that end to mitigate hazards for workers and/or to remove sources of danger.

4. The workers referred to in paragraph 2 and the workers' representatives referred to in paragraphs 2 and 3 may not be placed at a disadvantage because of their respective activities referred to in paragraphs 2 and 3.

5. Employers must allow workers' representatives with specific responsibility for the safety and health of workers adequate time off work, without loss of pay, and provide them with the necessary means to enable such representatives to exercise their rights and functions deriving from this Directive.

6. Workers and/or their representatives are entitled to appeal, in accordance with national law and/or practice, to the authority responsible for safety and health protection at work if they consider that the measures taken and the means employed by the employer are inadequate for the purposes of ensuring safety and health at work.

Workers' representatives must be given the opportunity to submit their observations during inspection visits by the competent authority.

Article 12

Training of workers

1. The employer shall ensure that each worker receives adequate safety and health training, in particular in the form of information and instructions specific to his workstation or job:

— on recruitment,

— in the event of a transfer or a change of job,

— in the event of the introduction of new work equipment or a change in equipment,

— in the event of the introduction of any new technology.

The training shall be:

— adapted to take account of new or changed risks, and

— repeated periodically if necessary.

2. The employer shall ensure that workers from outside undertakings and/or establishments engaged in work in his undertaking and/or establishment have in fact received appropriate instructions regarding health and safety risks during their activities in his undertaking and/or establishment.

3. Workers' representatives with a specific role in protecting the safety and health of workers shall be entitled to appropriate training.

4. The training referred to in paragraphs 1 and 3 may not be at the workers' expense or at that of the workers' representatives.

The training referred to in paragraph 1 must take place during working hours.

The training referred to in paragraph 3 must take place during working hours or in accordance with national practice either within or outside the undertaking and/or the establishment.

SECTION III

WORKERS' OBLIGATIONS

Article 13

1. It shall be the responsibility of each worker to take care as far as possible of his own safety and health and that of other persons affected by his acts or Commissions at work in accordance with his training and the instructions given by his employer.

2. To this end, workers must in particular, in accordance with their training and the instructions given by their employer:

(a) make correct use of machinery, apparatus, tools, dangerous substances, transport equipment and other means of production;

(b) make correct use of the personal protective equipment supplied to them and, after use, return it to its proper place;

(c) refrain from disconnecting, changing or removing arbitrarily safety devices fitted, e.g. to machinery, apparatus, tools, plant and buildings, and use such safety devices correctly;

(d) immediately inform the employer and/or the workers with specific responsibility for the safety and health of workers of any work situation they have reasonable grounds for considering represents a serious and immediate danger to safety and health and of any shortcomings in the protection arrangements;

(e) cooperate, in accordance with national practice, with the employer and/or workers with specific responsibility for the safety and health of workers, for as long as may be necessary to enable any tasks or requirements imposed by the competent authority to protect the safety and health of workers at work to be carried out;

(f) cooperate, in accordance with national practice, with the employer and/or workers with specific responsibility for the safety and health of workers, for as long as may be necessary to enable the employer to ensure that the working environment and working conditions are safe and pose no risk to safety and health within their field of activity.

SECTION IV

MISCELLANEOUS PROVISIONS

Article 14

Health surveillance

1. To ensure that workers receive health surveillance appropriate to the health and safety risks they incur at work, measures shall be introduced in accordance with national law and/or practices.

2. The measures referred to in paragraph 1 shall be such that each worker, if he so wishes, may receive health surveillance at regular intervals.

3. Health surveillance may be provided as part of a national health system.

Article 15

Risk groups

Particularly sensitive risk groups must be protected against the dangers which specifically affect them.

Article 16

Individual Directives — Amendments —

General scope of this Directive

1. The Council, acting on a proposal from the Commission based on Article 118a of the Treaty, shall adopt individual Directives, *inter alia*, in the areas listed in the Annex.

2. This Directive and, without prejudice to the procedure referred to in Article 17 concerning technical adjustments, the individual Directives may be amended in accordance with the procedure provided for in Article 118a of the Treaty.

3. The provisions of this Directive shall apply in full to all the areas covered by the individual Directives, without prejudice to more stringent and/or specific provisions contained in these individual Directives.

Article 17

Committee

1. For the purely technical adjustments to the individual Directives provided for in Article 16 (1) to take account of:

— the adoption of Directives in the field of technical harmonization and standardization, and/or

— technical progress, changes in international regulations or specifications, and new findings,

the Commission shall be assisted by a committee composed of the representatives of the Member States and chaired by the representative of the Commission.

2. The representative of the Commission shall submit to the committee a draft of the measures to be taken.

The committee shall deliver its opinion on the draft within a time limit which the chairman may lay down according to the urgency of the matter.

The opinion shall be delivered by the majority laid down in Article 148 (2) of the Treaty in the case of decisions which the Council is required to adopt on a proposal from the Commission.

The votes of the representatives of the Member States within the committee shall be weighted in the manner set out in that Article. The chairman shall not vote.

3. The Commission shall adopt the measures envisaged if they are in accordance with the opinion of the committee.

If the measures envisaged are not in accordance with the opinion of the committee, or if no opinion is delivered, the Commission shall, without delay, submit to the Council a proposal relating to the measures to be taken. The Council shall act by a qualified majority.

If, on the expiry of three months from the date of the referral to the Council, the Council has not acted, the proposed measures shall be adopted by the Commission.

Article 18

Final provisions

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 31 December 1992.

They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the texts of the provisions of national law which they have already adopted or adopt in the field covered by this Directive.

3. Member States shall report to the Commission every five years on the practical implementation of the provisions of this Directive, indicating the points of view of employers and workers.

The Commission shall inform the European Parliament, the Council, the Economic and Social Committee and the Advisory Committee on Safety, Hygiene and Health Protection at Work.

4. The Commission shall submit periodically to the European Parliament, the Council and the Economic and Social Committee a report on the implementation of this Directive, taking into account paragraphs 1 to 3.

Article 19

This Directive is addressed to the Member States.

Done at Luxembourg, 12 June 1989.

For the Council

The President

M. CHAVES GONZALES

ANNEX

List of areas referred to in Article 16 (1)

— Work places
— Work equipment
— Personal protective equipment
— Work with visual display units
— Handling of heavy loads involving risk of back injury
— Temporary or mobile work sites
— Fisheries and agriculture

II

(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DIRECTIVE

of 30 November 1989

concerning the minimum safety and health requirements for the workplace (first individual directive within the meaning of Article 16 (1) of Directive 89/391/EEC)

(89/654/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 118 a thereof,

Having regard to the proposal from the Commission (1), submitted after consulting the Advisory Committee on Safety, Hygiene and Health Protection at Work,

In cooperation with the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas Article 118 a of the Treaty provides that the Council shall adopt, by means of directives, minimum requirements for encouraging improvements, especially in the working environment, to ensure a better level of protection of the safety and health of workers;

Whereas, under the terms of that Article, those directives are to avoid imposing administrative, financial and legal constraints in a way which would hold back the creation and development of small and medium-sized undertakings;

Whereas the communication from the Commission on its programme concerning safety, hygiene and health at work (4) provides for the adoption of a directive designed to guarantee the safety and health of workers at the workplace;

Whereas, in its resolution of 21 December 1987 on safety, hygiene and health at work (5), the Council took note of the Commission's intention of submitting to the Council in the near future minimum requirements concerning the arrangement of the place of work;

Whereas compliance with the minimum requirements designed to guarantee a better standard of safety and health at work is essential to ensure the safety and health of workers;

Whereas this Directive is an individual directive within the meaning of Article 16 (1) of Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work (6); whereas the provisions of the latter are therefore fully applicable to the workplace without prejudice to more stringent and/or specific provisions contained in the present Directive;

Whereas this Directive is a practical contribution towards creating the social dimension of the internal market;

Whereas, pursuant to Decision 74/325/EEC (7), as last amended by the 1985 Act of Accession, the Advisory

(1) OJ No C 141, 30. 5. 1988, p. 6,
OJ No C 115, 8. 5. 1989, p. 34 and
OJ No C 284, 10. 11. 1989, p. 8
(2) OJ No C 326, 19. 12. 1988, p. 123 and
OJ No C 256, 9. 10. 1988, p. 51.
(3) OJ No C 175, 4. 7. 1988, p. 28.
(4) OJ No C 28, 3. 2. 1988, p. 3.
(5) OJ No C 28, 3. 2. 1988, p. 1.
(6) OJ No L 183, 29. 6. 1989, p. 1.
(7) OJ No L 185, 9. 7. 1974, p. 15.

Committee on Safety, Hygiene and Health Protection at Work is consulted by the Commission on the drafting of proposals in this field,

HAS ADOPTED THIS DIRECTIVE:

SECTION I

GENERAL PROVISIONS

Article 1

Subject

1. This Directive, which is the first individual directive within the meaning of Article 16 (1) of Directive 89/391/EEC, lays down minimum requirements for safety and health at the workplace, as defined in Article 2.

2. This Directive shall not apply to:

(a) means of transport used outside the undertaking and/or the establishment, or workplaces inside means of transport;

(b) temporary or mobile work sites;

(c) extractive industries;

(d) fishing boats;

(e) fields, woods and other land forming part of an agricultural or forestry undertaking but situated away from the undertaking's buildings.

3. The provisions of Directive 89/391/EEC are fully applicable to the whole scope referred to in paragraph 1, without prejudice to more restrictive and/or specific provisions contained in this Directive.

Article 2

Definition

For the purposes of this Directive, 'workplace' means the place intended to house workstations on the premises of the undertaking and/or establishment and any other place within the area of the undertaking and/or establishment to which the worker has access in the course of his employment.

SECTION II

EMPLOYERS' OBLIGATIONS

Article 3

Workplaces used for the first time

Workplaces used for the first time after 31 December 1992 must satisfy the minimum safety and health requirements laid down in Annex I.

Article 4

Workplaces already in use

Workplaces already in use before 1 January 1993 must satisfy the minimum safety and health requirements laid down in Annex II at the latest three years after that date.

However, as regards the Portuguese Republic, workplaces used before 1 January 1993 must satisfy, at the latest four years after that date, the minimum safety and health requirements appearing in Annex II.

Article 5

Modifications to workplaces

When workplaces undergo modifications, extensions and/or conversions after 31 December 1992, the employer shall take the measures necessary to ensure that those modifications, extensions and/or conversions are in compliance with the corresponding minimum requirements laid down in Annex I.

Article 6

General requirements

To safeguard the safety and health of workers, the employer shall see to it that:

— traffic routes to emergency exits and the exits themselves are kept clear at all times,

— technical maintenance of the workplace and of the equipment and devices, and in particular those referred to in Annexes I and II, is carried out and any faults found which are liable to affect the safety and health of workers are rectified as quickly as possible,

— the workplace and the equipment and devices, and in particular those referred to in Annex I, point 6, and Annex II, point 6, are regularly cleaned to an adequate level of hygiene,

— safety equipment and devices intended to prevent or eliminate hazards, and in particular those referred to in Annexes I and II, are regularly maintained and checked.

Article 7

Information of workers

Without prejudice to Article 10 of Directive 89/391/EEC, workers and/or their representatives shall be informed of all measures to be taken concerning safety and health at the workplace.

Article 8

Consultation of workers and workers' participation

Consultation and participation of workers and/or of their representatives shall take place in accordance with Article 11 of Directive 89/391/EEC on the matters covered by this Directive, including the Annexes thereto.

SECTION III

MISCELLANEOUS PROVISIONS

Article 9

Amendments to the Annexes

Strictly technical amendments to the Annexes as a result of:

— the adoption of Directives on technical harmonization and standardization of the design, manufacture or construction of parts of workplaces, and/or

— technical progress, changes in international regulations or specifications and knowledge with regard to workplaces,

shall be adopted in accordance with the procedure laid down in Article 17 of Directive 89/391/EEC.

Article 10

Final provisions

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 31 December 1992. They shall forthwith inform the Commission thereof.

However, the date applicable for the Hellenic Republic shall be 31 December 1994.

2. Member States shall communicate to the Commission the texts of the provisions of national law which they have already adopted or adopt in the field governed by this Directive.

3. Member States shall report to the Commission every five years on the practical implementation of the provisions of this Directive, indicating the points of view of employers and workers.

The Commission shall inform the European Parliament, the Council, the Economic and Social Committee and the Advisory Council on Safety, Hygiene and Health Protection at Work.

4. The Commission shall submit periodically to the European Parliament, the Council and the Economic and Social Committee a report on the implementation of this Directive, taking into account paragraphs 1 to 3.

Article 11

This Directive is addressed to the Member States.

Done at Brussels, 30 November 1989.

For the Council

The President

J. P. SOISSON

ANNEX I

MINIMUM SAFETY AND HEALTH REQUIREMENTS FOR WORKPLACES USED FOR THE FIRST TIME, AS REFERRED TO IN ARTICLE 3 OF THE DIRECTIVE

1. **Preliminary note**

The obligations laid down in this Annex apply whenever required by the features of the workplace, the activity, the circumstances or a hazard.

2. **Stability and solidity**

Buildings which house workplaces must have a structure and solidity appropriate to the nature of their use.

3. **Electrical installations**

Electrical installations must be designed and constructed so as not to present a fire or explosion hazard; persons must be adequately protected against the risk of accidents caused by direct or indirect contact.

The design, construction and choice of material and protection devices must be appropriate to the voltage, external conditions and the competence of persons with access to parts of the installation.

4. **Emergency routes and exits**

4.1. Emergency routes and exits must remain clear and lead as directly as possible to the open air or to a safe area.

4.2. In the event of danger, it must be possible for workers to evacuate all workstations quickly and as safely as possible.

4.3. The number, distribution and dimensions of the emergency routes and exits depend on the use, equipment and dimensions of the workplaces and the maximum number of persons that may be present.

4.4. Emergency doors must open outwards.

Sliding or revolving doors are not permitted if they are specifically intended as emergency exits.

Emergency doors should not be so locked or fastened that they cannot be easily and immediately opened by any person who may require to use them in an emergency.

4.5. Specific emergency routes and exits must be indicated by signs in accordance with the national regulations transposing Directive 77/576/EEC [1] into law.

Such signs must be placed at appropriate points and be made to last.

4.6. Emergency doors must not be locked.

The emergency routes and exits, and the traffic routes and doors giving access to them, must be free from obstruction so that they can be used at any time without hindrance.

4.7. Emergency routes and exits requiring illumination must be provided with emergency lighting of adequate intensity in case the lighting fails.

5. **Fire detection and fire fighting**

5.1. Depending on the dimensions and use of the buildings, the equipment they contain, the physical and chemical properties of the substances present and the maximum potential number of people present, workplaces must be equipped with appropriate fire-fighting equipment and, as necessary, with fire detectors and alarm systems.

[1] OJ No L 229, 7. 9. 1977, p. 12.

5.2. Non-automatic fire-fighting equipment must be easily accessible and simple to use.

The equipment must be indicated by signs in accordance with the national regulations transposing Directive 77/576/EEC into law.

Such signs must be placed at appropriate points and be made to last.

6. **Ventilation of enclosed workplaces**

6.1. Steps shall be taken to see to it that there is sufficient fresh air in enclosed workplaces, having regard to the working methods used and the physical demands placed on the workers.

If a forced ventilation system is used, it shall be maintained in working order.

Any breakdown must be indicated by a control system where this is necessary for workers' health.

6.2. If air-conditioning or mechanical ventilation installations are used, they must operate in such a way that workers are not exposed to draughts which cause discomfort.

Any deposit or dirt likely to create an immediate danger to the health of workers by polluting the atmosphere must be removed without delay.

7. **Room temperature**

7.1. During working hours, the temperature in rooms containing workplaces must be adequate for human beings, having regard to the working methods being used and the physical demands placed on the workers.

7.2. The temperature in rest areas, rooms for duty staff, sanitary facilities, canteens and first aid rooms must be appropriate to the particular purpose of such areas.

7.3. Windows, skylights and glass partitions should allow excessive effects of sunlight in workplaces to be avoided, having regard to the nature of the work and of the workplace.

8. **Natural and artificial room lighting**

8.1. Workplaces must as far as possible receive sufficient natural light and be equipped with artificial lighting adequate for the protection of workers' safety and health.

8.2. Lighting installations in rooms containing workplaces and in passageways must be placed in such a way that there is no risk of accident to workers as a result of the type of lighting fitted.

8.3. Workplaces in which workers are especially exposed to risks in the event of failure of artificial lighting must be provided with emergency lighting of adequate intensity.

9. **Floors, walls, ceilings and roofs of rooms**

9.1. The floors of workplaces must have no dangerous bumps, holes or slopes and must be fixed, stable and not slippery.

Workplaces containing workstations must be adequately insulated, bearing in mind the type of undertaking involved and the physical activity of the workers.

9.2. The surfaces of floors, walls and ceilings in rooms must be such that they can be cleaned or refurbished to an appropriate standard of hygiene.

9.3. Transparent or translucent walls, in particular all-glass partitions, in rooms or in the vicinity of workplaces and traffic routes must be clearly indicated and made of safety material or be shielded from such places or traffic routes to prevent workers from coming into contact with walls or being injured should the walls shatter.

9.4. Access to roofs made of materials of insufficient strength must not be permitted unless equipment is provided to ensure that the work can be carried out in a safe manner.

10. **Windows and skylights**

10.1. It must be possible for workers to open, close, adjust or secure windows, skylights and ventilators in a safe manner. When open, they must not be positioned so as to constitute a hazard to workers.

10.2. Windows and skylights must be designed in conjunction with equipment or otherwise fitted with devices allowing them to be cleaned without risk to the workers carrying out this work or to workers present in and around the building.

11. **Doors and gates**

11.1. The position, number and dimensions of doors and gates, and the materials used in their construction, are determined by the nature and use of the rooms or areas.

11.2. Transparent doors must be appropriately marked at a conspicuous level.

11.3. Swing doors and gates must be transparent or have see-through panels.

11.4. If transparent or translucent surfaces in doors and gates are not made of safety material and if there is a danger that workers may be injured if a door or gate should shatter, the surfaces must be protected against breakage.

11.5. Sliding doors must be fitted with a safety device to prevent them from being derailed and falling over.

11.6. Doors and gates opening upwards must be fitted with a mechanism to secure them against falling back.

11.7. Doors along escape routes must be appropriately marked.

It must be possible to open them from the inside at any time without special assistance.

It must be possible to open the doors when the workplaces are occupied.

11.8. Doors for pedestrians must be provided in the immediate vicinity of any gates intended essentially for vehicle traffic, unless it is safe for pedestrians to pass through; such doors must be clearly marked and left permanently unobstructed.

11.9. Mechanical doors and gates must function in such a way that there is no risk of accident to workers.

They must be fitted with easily identifiable and accessible emergency shut-down devices and, unless they open automatically in the event of a power failure, it must also be possible to open them manually.

12. **Traffic routes — danger areas**

12.1. Traffic routes, including stairs, fixed ladders and loading bays and ramps, must be located and dimensioned to ensure easy, safe and appropriate access for pedestrians or vehicles in such a way as not to endanger workers employed in the vicinity of these traffic routes.

12.2. Routes used for pedestrian traffic and/or goods traffic must be dimensioned in accordance with the number of potential users and the type of undertaking.

If means of transport are used on traffic routes, a sufficient safety clearance must be provided for pedestrians.

12.3. Sufficient clearance must be allowed between vehicle traffic routes and doors, gates, passages for pedestrians, corridors and staircases.

12.4. Where the use and equipment of rooms so requires for the protection of workers, traffic routes must be clearly identified.

12.5. If the workplaces contain danger areas in which, owing to the nature of the work, there is a risk of the worker or objects falling, the places must be equipped, as far as possible, with devices preventing unauthorized workers from entering those areas.

Appropriate measures must be taken to protect workers authorized to enter danger areas.

Danger areas must be clearly indicated.

13. **Specific measures for escalators and travelators**

Escalators and travelators must function safely.

They must be equipped with any necessary safety devices.

They must be fitted with easily identifiable and accessible emergency shut-down devices.

14. **Loading bays and ramps**

14.1. Loading bays and ramps must be suitable for the dimensions of the loads to be transported.

14.2. Loading bays must have at least one exit point.

Where technically feasible, bays over a certain length must have an exit point at each end.

14.3. Loading ramps must as far as possible be safe enough to prevent workers from falling off.

15. **Room dimensions and air space in rooms — freedom of movement at the workstation**

15.1. Workrooms must have sufficient surface area, height and air space to allow workers to perform their work without risk to their safety, health or well-being.

15.2. The dimensions of the free unoccupied area at the workstation must be calculated to allow workers sufficient freedom of movement to perform their work.

If this is not possible for reasons specific to the workplace, the worker must be provided with sufficient freedom of movement near his workstation.

16. **Rest rooms**

16.1. Where the safety or health of workers, in particular because of the type of activity carried out or the presence of more than a certain number of employees, so require, workers must be provided with an easily accessible rest room.

This provision does not apply if the workers are employed in offices or similar workrooms providing equivalent relaxation during breaks.

16.2. Rest rooms must be large enough and equipped with an adequate number of tables and seats with backs for the number of workers.

16.3. In rest rooms appropriate measures must be introduced for the protection of non-smokers against discomfort caused by tobacco smoke.

16.4. If working hours are regularly and frequently interrupted and there is no rest room, other rooms must be provided in which workers can stay during such interruptions, wherever this is required for the safety or health of workers.

Appropriate measures should be taken for the protection of non-smokers against discomfort caused by tobacco smoke.

17. **Pregnant women and nursing mothers**

Pregnant women and nursing mothers must be able to lie down to rest in appropriate conditions.

18. **Sanitary equipment**

18.1. *Changing rooms and lockers*

18.1.1. Appropriate changing rooms must be provided for workers if they have to wear special work clothes and where, for reasons of health or propriety, they cannot be expected to change in another room.

Changing rooms must be easily accessible, be of sufficient capacity and be provided with seating.

18.1.2. Changing rooms must be sufficiently large and have facilities to enable each worker to lock away his clothes during working hours.

If circumstances so require (e.g. dangerous substances, humidity, dirt), lockers for work clothes must be separate from those for ordinary clothes.

18.1.3. Provision must be made for separate changing rooms or separate use of changing rooms for men and women.

18.1.4. If changing rooms are not required under 18.1.1, each worker must be provided with a place to store his clothes.

18.2. *Showers and washbasins*

18.2.1. Adequate and suitable showers must be provided for workers if required by the nature of the work or for health reasons.

Provision must be made for separate shower rooms or separate use of shower rooms for men and women.

18.2.2. The shower rooms must be sufficiently large to permit each worker to wash without hindrance in conditions of an appropriate standard of hygiene.

The showers must be equipped with hot and cold running water.

18.2.3. Where showers are not required under the first subparagraph of 18.2.1, adequate and suitable washbasins with running water (hot water if necessary) must be provided in the vicinity of the workstations and the changing rooms.

Such washbasins must be separate for, or used separately by, men and women when so required for reasons of propriety.

18.2.4. Where the rooms housing the showers or washbasins are separate from the changing rooms, there must be easy communication between the two.

18.3. *Lavatories and washbasins*

Separate facilities must be provided in the vicinity of workstations, rest rooms, changing rooms and rooms housing showers or washbasins, with an adequate number of lavatories and washbasins.

Provision must be made for separate lavatories or separate use of lavatories for men and women.

19. **First aid rooms**

19.1. One or more first aid rooms must be provided where the size of the premises, type of activity being carried out and frequency of accidents so dictate.

19.2. First aid rooms must be fitted with essential first aid installations and equipment and be easily accessible to stretchers.

They must be signposted in accordance with the national regulations transposing Directive 77/576/EEC into law.

19.3. In addition, first aid equipment must be available in all places where working conditions require it.

This equipment must be suitably marked and easily accessible.

20. **Handicapped workers**

Workplaces must be organized to take account of handicapped workers, if necessary.

This provision applies in particular to the doors, passageways, staircases, showers, washbasins, lavatories and workstations used or occupied directly by handicapped persons.

21. **Outdoor workplaces (special provisions)**

21.1. Workstations, traffic routes and other areas or installations outdoors which are used or occupied by the workers in the course of their activity must be organized in such a way that pedestrians and vehicles can circulate safely.

Sections 12, 13 and 14 also apply to main traffic routes on the site of the undertaking (traffic routes leading to fixed workstations), to traffic routes used for the regular maintenance and supervision of the undertaking's installations and to loading bays.

Section 12 is also applicable to outdoor workplaces.

21.2. Workplaces outdoors must be adequately lit by artificial lighting if daylight is not adequate.

21.3. When workers are employed at workstations outdoors, such workstations must as far as possible be arranged so that workers:

(a) are protected against inclement weather conditions and if necessary against falling objects;

(b) are not exposed to harmful noise levels nor to harmful external influences such as gases, vapours or dust;

(c) are able to leave their workstations swiftly in the event of danger or are able to be rapidly assisted;

(d) cannot slip or fall.

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ANNEX II

MINIMUM HEALTH AND SAFETY REQUIREMENTS FOR WORKPLACES ALREADY IN USE, AS REFERRED TO IN ARTICLE 4 OF THE DIRECTIVE

1. **Preliminary note**

The obligations laid down in this Annex apply wherever required by the features of the workplace, the activity, the circumstances or a hazard.

2. **Stability and solidity**

Buildings which have workplaces must have a structure and solidity appropriate to the nature of their use.

3. **Electrical installations**

Electrical installations must be designed and constructed so as not to present a fire or explosion hazard; persons must be adequately protected against the risk of accidents caused by direct or indirect contact.

Electrical installations and protection devices must be appropriate to the voltage, external conditions and the competence of persons with access to parts of the installation.

4. **Emergency routes and exits**

4.1. Emergency routes and exits must remain clear and lead as directly as possible to the open air or to a safe area.

4.2. In the event of danger, it must be possible for workers to evacuate all workstations quickly and as safely as possible.

4.3. There must be an adequate number of escape routes and emergency exits.

4.4. Emergency exit doors must open outwards.

Sliding or revolving doors are not permitted if they are specifically intended as emergency exits.

Emergency doors should not be so locked or fastened that they cannot be easily and immediately opened by any person who may require to use them in an emergency.

4.5. Specific emergency routes and exits must be indicated by signs in accordance with the national regulations transposing Directive 77/576/EEC into law.

Such signs must be placed at appropriate points and be made to last.

4.6. Emergency doors must not be locked.

The emergency routes and exits, and the traffic routes and doors giving access to them, must be free from obstruction so that they can be used at any time without hindrance.

4.7. Emergency routes and exits requiring illumination must be provided with emergency lighting of adequate intensity in case the lighting fails.

5. **Fire detection and fire fighting**

5.1. Depending on the dimensions and use of the buildings, the equipment they contain, the physical and chemical characteristics of the substances present and the maximum potential number of people present, workplaces must be equipped with appropriate fire-fighting equipment, and, as necessary, fire detectors and an alarm system.

5.2. Non-automatic fire-fighting equipment must be easily accessible and simple to use.

It must be indicated by signs in accordance with the national regulations transposing Directive 77/576/EEC into law.

Such signs must be placed at appropriate points and be made to last.

6. Ventilation of enclosed workplaces

Steps shall be taken to see to it that there is sufficient fresh air in enclosed workplaces, having regard to the working methods used and the physical demands placed on the workers.

If a forced ventilation system is used, it shall be maintained in working order.

Any breakdown must be indicated by a control system where this is necessary for the workers' health.

7. Room temperature

7.1. During working hours, the temperature in rooms containing workplaces must be adequate for human beings, having regard to the working methods being used and the physical demands placed on the workers.

7.2. The temperature in rest areas, rooms for duty staff, sanitary facilities, canteens and first aid rooms must be appropriate to the particular purpose of such areas.

8. Natural and artificial room lighting

8.1. Workplaces must as far as possible receive sufficient natural light and be equipped with artificial lighting adequate for workers' safety and health.

8.2. Workplaces in which workers are especially exposed to risks in the event of failure of artificial lighting must be provided with emergency lighting of adequate intensity.

9. Doors and gates

9.1. Transparent doors must be appropriately marked at a conspicuous level.

9.2. Swing doors and gates must be transparent or have see-through panels.

10. Danger areas

If the workplaces contain danger areas in which, owing to the nature of the work, there is a risk of the worker or objects falling, the places must be equipped, as far as possible, with devices preventing unauthorized workers from entering those areas.

Appropriate measures must be taken to protect workers authorized to enter danger areas.

Danger areas must be clearly indicated.

11. Rest rooms and rest areas

11.1. Where the safety or health of workers, in particular because of the type of activity carried out or the presence of more than a certain number of employees, so require, workers must be provided with an easily accessible rest room or appropriate rest area.

This provision does not apply if the workers are employed in offices or similar workrooms providing equivalent relaxation during breaks.

11.2. Rest rooms and rest areas must be equipped with tables and seats with backs.

11.3. In rest rooms and rest areas appropriate measures must be introduced for the protection of non-smokers against discomfort caused by tobacco smoke.

12. Pregnant women and nursing mothers

Pregnant women and nursing mothers must be able to lie down to rest in appropriate conditions.

13. **Sanitary equipment**

13.1. *Changing rooms and lockers*

13.1.1. Appropriate changing rooms must be provided for workers if they have to wear special work clothes and where, for reasons of health or propriety, they cannot be expected to change in another room.

Changing rooms must be easily accessible and of sufficient capacity.

13.1.2. Changing rooms must have facilities to enable each worker to lock away his clothes during working hours.

If circumstances so require (e.g. dangerous substances, humidity, dirt), lockers for work clothes must be separate from those for ordinary clothes.

13.1.3. Provision must be made for separate changing rooms or separate use of changing rooms for men and women.

13.2. *Showers, lavatories and washbasins*

13.2.1. Workplaces must be fitted out in such a way that workers have in the vicinity:

— showers, if required by the nature of their work,

— special facilities equipped with an adequate number of lavatories and washbasins.

13.2.2. The showers and washbasins must be equipped with running water (hot water if necessary).

13.2.3. Provision must be made for separate showers or separate use of showers for men and women.

Provision must be made for separate lavatories or separate use of lavatories for men and women.

14. **First aid equipment**

Workplaces must be fitted with first aid equipment.

The equipment must be suitably marked and easily accessible.

15. **Handicapped workers**

Workplaces must be organized to take account of handicapped workers, if necessary.

This provision applies in particular to the doors, passageways, staircases, showers, washbasins, lavatories and workstations used or occupied directly by handicapped persons.

16. **Movement of pedestrians and vehicles**

Outdoor and indoor workplaces must be organized in such a way that pedestrians and vehicles can circulate in a safe manner.

17. **Outdoor workplaces (special provisions)**

When workers are employed at workstations outdoors, such workstations must as far as possible be organized so that workers:

(a) are protected against inclement weather conditions and if necessay against falling objects;

(b) are not exposed to harmful noise levels nor to harmful external influences such as gases, vapours or dust;

(c) are able to leave their workstations swiftly in the event of danger or are able to be rapidly assisted;

(d) cannot slip or fall.

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COUNCIL DIRECTIVE

of 30 November 1989

concerning the minimum safety and health requirements for the use of work equipment by workers at work (second individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC)

(89/655/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 118a thereof,

Having regard to the proposal from the Commission (1), submitted after consulting the Advisory Committee on Safety, Hygiene and Health Protection at Work,

In cooperation with the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas Article 118a of the Treaty provides that the Council shall adopt, by means of directives, minimum requirements for encouraging improvements, especially in the working environment, to guarantee a better level of protection of the safety and health of workers;

Whereas, pursuant to the said Article, such directives must avoid imposing administrative, financial and legal constraints in a way which would hold back the creation and development of small and medium-sized undertakings;

Whereas the communication from the Commission on its programme concerning safety, hygiene and health at work (4) provides for the adoption of a directive on the use of work equipment at work;

Whereas, in its resolution of 21 December 1987 on safety, hygiene and health at work (5), the Council took note of the Commission's intention of submitting to the Council in the near future minimum requirements concerning the organization of safety and health at work;

Whereas compliance with the minimum requirements designed to guarantee a better standard of safety and health in the use of work equipment is essential to ensure the safety and health of workers;

Whereas this Directive is an individual directive within the meaning of Article 16 (1) of Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work (6); whereas, therefore, the provisions of the said Directive are fully applicable to the scope of the use of work equipment by workers at work without prejudice to more restrictive and/or specific provisions contained in this Directive;

Whereas this Directive constitutes a practical aspect of the realization of the social dimension of the internal market;

Whereas, pursuant to Directive 83/189/EEC (7), Member States are required to notify the Commission of any draft technical regulations relating to machines, equipment and installations;

Whereas, pursuant to Decision 74/325/EEC (8), as last amended by the 1985 Act of Accession, the Advisory Committee on Safety, Hygiene and Health Protection at Work is consulted by the Commission on the drafting of proposals in this field,

HAS ADOPTED THIS DIRECTIVE:

SECTION 1

GENERAL PROVISIONS

Article 1

Subject

1. This Directive, which is the second individual directive within the meaning of Article 16 (1) of Directive 89/391/EEC, lays down minimum safety and health requirements for the use of work equipment by workers at work, as defined in Article 2.

2. The provisions of Directive 89/391/EEC are fully applicable to the whole scope referred to in paragraph 1, without prejudice to more restrictive and/or specific provisions contained in this Directive.

(1) OJ No C 114, 30. 4. 1988, p. 3, OJ No C 106, 26. 4. 1989, p. 13 and OJ No C 287, 15. 11. 1989, p. 12.
(2) OJ No C 326, 19. 12. 1988, p. 132 and OJ No C 256, 9. 10. 1989, p. 65.
(3) OJ No C 318, 12. 12. 1988, p. 26.
(4) OJ No C 28, 3. 2. 1988, p. 3.
(5) OJ No C 28, 3. 2. 1988, p. 1.
(6) OJ No L 183, 29. 6. 1989, p. 1.
(7) OJ No L 109, 26. 4. 1983, p. 8.
(8) OJ No L 185, 9. 7. 1974, p. 15.

Article 2

Definitions

For the purposes of this Directive, the following terms shall have the following meanings:

(a) 'work equipment': any machine, apparatus, tool or installation used at work;

(b) 'use of work equipment': any activity involving work equipment such as starting or stopping the equipment, its use, transport, repair, modification, maintenance and servicing, including, in particular, cleaning;

(c) 'danger zone': any zone within and/or around work equipment in which an exposed worker is subject to a risk to his health or safety;

(d) 'exposed worker': any worker wholly or partially in a danger zone;

(e) 'operator': the worker or workers given the task of using work equipment.

SECTION II

EMPLOYERS' OBLIGATIONS

Article 3

General obligations

1. The employer shall take the measures necessary to ensure that the work equipment made available to workers in the undertaking and/or establishment is suitable for the work to be carried out or properly adapted for that purpose and may be used by workers without impairment to their safety or health.

In selecting the work equipment which he proposes to use, the employer shall pay attention to the specific working conditions and characteristics and to the hazards which exist in the undertaking and/or establishment, in particular at the workplace, for the safety and health of the workers, and/or any additional hazards posed by the use of work equipment in question.

2. Where it is not possible fully so to ensure that work equipment can be used by workers without risk to their safety or health, the employer shall take appropriate measures to minimize the risks.

Article 4

Rules concerning work equipment

1. Without prejudice to Article 3, the employer must obtain and/or use:

(a) work equipment which, if provided to workers in the undertaking and/or establishment for the first time after 31 December 1992, complies with:

(i) the provisions of any relevant Community directive which is applicable;

(ii) the minimum requirements laid down in the Annex, to the extent that no other Community directive is applicable or is so only partially;

(b) work equipment which, if already provided to workers in the undertaking and/or establishment by 31 December 1992, complies with the minimum requirements laid down in the Annex no later than four years after that date.

2. The employer shall take the measures necessary to ensure that, throughout its working life, work equipment is kept, by means of adequate maintenance, at a level such that it complies with the provisions of paragraph 1 (a) or (b) as applicable.

Article 5

Work equipment involving specific risks

When the use of work equipment is likely to involve a specific risk to the safety or health of workers, the employer shall take the measures necessary to ensure that:

— the use of work equipment is restricted to those persons given the task of using it;

— in the case of repairs, modifications, maintenance or servicing, the workers concerned are specifically designated to carry out such work.

Article 6

Informing workers

1. Without prejudice to Article 10 of Directive 89/391/EEC, the employer shall take the measures necessary to ensure that workers have at their disposal adequate information and, where appropriate, written instructions on the work equipment used at work.

2. The information and the written instructions must contain at least adequate safety and health information concerning:

— the conditions of use of work equipment,

— foreseeable abnormal situations,

— the conclusions to be drawn from experience, where appropriate, in using work equipment.

3. The information and the written instructions must be comprehensible to the workers concerned.

Article 7

Training of workers

Without prejudice to Article 12 of Directive 89/391/EEC, the employer shall take the measures necessary to ensure that:

— workers given the task of using work equipment receive adequate training, including training on any risks which such use may entail,

— workers referred to in the second indent of Article 5 receive adequate specific training.

Article 8

Consultation of workers and workers' participation

Consultation and participation of workers and/or of their representatives shall take place in accordance with Article 11 of Directive 89/391/EEC on the matters covered by this Directive, including the Annexes thereto.

SECTION III

MISCELLANEOUS PROVISIONS

Article 9

Amendment to the Annex

1. Addition to the Annex of the supplementary minimum requirements applicable to specific work equipment referred to in point 3 thereof shall be adopted by the Council in accordance with the procedure laid down in Article 118a of the Treaty.

2. Strictly technical adaptations of the Annex as a result of:

— the adoption of directives on technical harmonization and standardization of work equipment, and/or

— technical progress, changes in international regulations or specifications or knowledge in the field of work equipment

, shall be adopted, in accordance with the procedure laid down in Article 17 of Directive 89/391/EEC.

Article 10

Final provisions

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 31 December 1992. They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the texts of the provisions of national law which they have already adopted or adopt in the field governed by this Directive.

3. Member States shall report to the Commission every five years on the practical implementation of the provisions of this Directive, indicating the points of view of employers and workers.

The Commission shall accordingly inform the European Parliament, the Council, the Economic and Social Committee, and the Advisory Committee on Safety, Hygiene and Health Protection at Work.

4. The Commission shall submit periodically to the European Parliament, the Council and the Economic and Social Committee a report on the implementation of this Directive, taking into account paragraphs 1 to 3.

Article 11

This Directive is addressed to the Member States.

Done at Brussels, 30 November 1989.

For the Council

The President

J. P. SOISSON

ANNEX

MINIMUM REQUIREMENTS REFERRED TO IN ARTICLE 4 (1) (a) (ii) and (b)

1. General comment

The obligations laid down in this Annex apply having regard to the provisions of the Directive and where the corresponding risk exists for the work equipment in question.

2. General minimum requirements applicable to work equipment

2.1. Work equipment control devices which affect safety must be clearly visible and identifiable and appropriately marked where necessary.

Except where necessary for certain control devices, control devices must be located outside danger zones and in such a way that their operation cannot cause additional hazard. They must not give rise to any hazard as a result of any unintentional operation.

If necessary, from the main control position, the operator must be able to ensure that no person is present in the danger zones. If this is impossible, a safe system such as an audible and/or visible warning signal must be given automatically whenever the machinery is about to start. An exposed worker must have the time and/or the means quickly to avoid hazards caused by the starting and/or stopping of the work equipment.

Control systems must be safe. A breakdown in, or damage to, control systems must not result in a dangerous situation.

2.2. It must be possible to start work equipment only by deliberate action on a control provided for the purpose.

The same shall apply:

— to restart it after a stoppage for whatever reason,

— for the control of a significant change in the operating conditions (e.g. speed, pressure, etc.),

unless such a restart or change does not subject exposed workers to any hazard.

This requirement does not apply to restarting or a change in operating conditions as a result of the normal operating cycle of an automatic device.

2.3. All work equipment must be fitted with a control to stop it completely and safely.

Each work station must be fitted with a control to stop some or all of the work equipment, depending on the type of hazard, so that the equipment is in a safe state. The equipment's stop control must have priority over the start controls. When the work equipment or the dangerous parts of it have stopped, the energy supply of the actuators concerned must be switched off.

2.4. Where appropriate, and depending on the hazards the equipment presents and its normal stopping time, work equipment must be fitted with an emergency stop device.

2.5. Work equipment presenting risk due to falling objects or projections must be fitted with appropriate safety devices corresponding to the risk.

Work equipment presenting hazards due to emissions of gas, vapour, liquid or dust must be fitted with appropriate containment and/or extraction devices near the sources of the hazard.

2.6. Work equipment and parts of such equipment must, where necessary for the safety and health of workers, be stabilized by clamping or some other means.

2.7. Where there is a risk of rupture or disintegration of parts of the work equipment, likely to pose significant danger to the safety and health of workers, appropriate protection measures must be taken.

2.8. Where there is a risk of mechanical contact with moving parts of work equipment which could lead to accidents, those parts must be provided with guards or devices to prevent access to danger zones or to halt movements of dangerous parts before the danger zones are reached.

The guards and protection devices must:

— be of robust construction,

— not give rise to any additional hazard,

— not be easily removed or rendered inoperative,

— be situated at sufficient distance from the danger zone,

— not restrict more than necessary the view of the operating cycle of the equipment,

— allow operations necessary to fit or replace parts and for maintenance work, restricting access only to the area where the work is to be carried out and, if possible, without removal of the guard or protection device.

2.9. Areas and points for working on, or maintenance of, work equipment must be suitably lit in line with the operation to be carried out.

2.10. Work equipment parts at high or very low temperature must, where appropriate, be protected to avoid the risk of workers coming into contact or coming too close.

2.11. Warning devices on work equipment must be unambiguous and easily perceived and understood.

2.12. Work equipment may be used only for operations and under conditions for which it is appropriate.

2.13. It must be possible to carry out maintenance operations when the equipment is shut down. If this is not possible, it must be possible to take appropriate protection measures for the carrying out of such operations or for such operations to be carried out outside the danger zones.

If any machine has a maintenance log, it must be kept up to date.

2.14. All work equipment must be fitted with clearly identifiable means to isolate it from all its energy sources.

Reconnection must be presumed to pose no risk to the workers concerned.

2.15. Work equipment must bear the warnings and markings essential to ensure the safety of workers.

2.16. Workers must have safe means of access to, and be able to remain safely in, all the areas necessary for production, adjustment and maintenance operations.

2.17. All work equipment must be appropriate for protecting workers against the risk of the work equipment catching fire or overheating, or of discharges of gas, dust, liquid, vapour or other substances produced, used or stored in the work equipment.

2.18. All work equipment must be appropriate for preventing the risk of explosion of the work equipment or of substances produced, used or stored in the work equipment.

2.19. All work equipment must be appropriate for protecting exposed workers against the risk of direct or indirect contact with electricity.

3. **Minimum additional requirements applicable to specific work equipment,**

as referred to in Article 9 (1) of the Directive.

No L 393/18 Official Journal of the European Communities 30. 12. 89

COUNCIL DIRECTIVE

of 30 November 1989

on the minimum health and safety requirements for the use by workers of personal protective equipment at the workplace (third individual directive within the meaning of Article 16 (1) of Directive 89/391/EEC)

(89/656/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community and in particular Article 118a thereof,

Having regard to the Commission proposal (1), submitted after consultation with the Advisory Committee on Safety, Hygiene and Health Protection at Work,

In cooperation with the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas Article 118a of the Treaty provides that the Council shall adopt, by means of directives, minimum requirements designed to encourage improvements, especially in the working environment, to guarantee greater protection of the health and safety of workers;

Whereas, under the said Article, such directives shall avoid imposing administrative, financial and legal constraints in a way which would hold back the creation and development of small and medium-sized undertakings;

Whereas the Commission communication on its programme concerning safety, hygiene and health at work (4) provides for the adoption of a directive on the use of personal protective equipment at work;

Whereas the Council, in its resolution of 21 December 1987 concerning safety, hygiene and health at work (5), noted the Commission's intention of submitting to it in the near future minimum requirements concerning the organization of the safety and health of workers at work;

Whereas compliance with the minimum requirements designed to guarantee greater health and safety for the user of personal protective equipment is essential to ensure the safety and health of workers;

Whereas this Directive is an individual directive within the meaning of Article 16 (1) of Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work (6); whereas, consequently, the provisions of the said Directive apply fully to the use by workers of personal protective equipment at the workplace, without prejudice to more stringent and/or specific provisions contained in this Directive;

Whereas this Directive constitutes a practical step towards the achievement of the social dimension of the internal market;

Whereas collective means of protection shall be accorded priority over individual protective equipment; whereas the employer shall be required to provide safety equipment and take safety measures;

Whereas the requirements laid down in this Directive should not entail alterations to personal protective equipment whose design and manufacture complied with Community directives relating to safety and health at work;

Whereas provision should be made for descriptions which Member States may use when laying down general rules for the use of individual protective equipment;

Whereas, pursuant to Decision 74/325/EEC (7), as last amended by the 1985 Act of Accession, the Advisory Committee on Safety, Hygiene and Health Protection at Work is consulted by the Commission with a view to drawing up proposals in this field,

HAS ADOPTED THIS DIRECTIVE:

SECTION 1

GENERAL PROVISIONS

Article 1

Subject

1. This Directive, which is the third individual directive within the meaning of Article 16 (1) of Directive

(1) OJ No C 161, 20. 6. 1988, p. 1, OJ No C 115, 8. 5. 1989, p. 27 and OJ No C 287, 15. 11. 1989, p. 11.
(2) OJ No C 12, 16. 1. 1989, p. 92 and OJ No C 256, 9. 10. 1989, p. 61.
(3) OJ No C 318, 12. 12. 1988, p. 30.
(4) OJ No C 28, 3. 2. 1988, p. 3.
(5) OJ No C 28, 3. 2. 1988, p. 1.
(6) OJ No L 183, 29. 6. 1989, p. 1.
(7) OJ No L 185, 9. 7. 1974, p. 15.

89/391/EEC, lays down minimum requirements for personal protective equipment used by workers at work.

2. The provisions of Directive 89/391/EEC are fully applicable to the whole scope referred to in paragraph 1, without prejudice to more restrictive and/or specific provisions contained in this Directive.

Article 2

Definition

1. For the purposes of this Directive, personal protective equipment shall mean all equipment designed to be worn or held by the worker to protect him against one or more hazards likely to endanger his safety and health at work, and any addition or accessory designed to meet this objective.

2. The definition in paragraph 1 excludes:

(a) ordinary working clothes and uniforms not specifically designed to protect the safety and health of the worker;

(b) equipment used by emergency and rescue services;

(c) personal protective equipment worn or used by the military, the police and other public order agencies;

(d) personal protective equipment for means of road transport;

(e) sports equipment;

(f) self-defence or deterrent equipment;

(g) portable devices for detecting and signalling risks and nuisances.

Article 3

General rule

Personal protective equipment shall be used when the risks cannot be avoided or sufficiently limited by technical means of collective protection or by measures, methods or procedures of work organization.

SECTION II

EMPLOYERS' OBLIGATIONS

Article 4

General provisions

1. Personal protective equipment must comply with the relevant Community provisions on design and manufacture with respect to safety and health.

All personal protective equipment must:

(a) be appropriate for the risks involved, without itself leading to any increased risk;

(b) correspond to existing conditions at the workplace;

(c) take account of ergonomic requirements and the worker's state of health;

(d) fit the wearer correctly after any necessary adjustment.

2. Where the presence of more than one risk makes it necessary for a worker to wear simultaneously more than one item of personal protective equipment, such equipment must be compatible and continue to be effective against the risk or risks in question.

3. The conditions of use of personal protective equipment, in particular the period for which it is worn, shall be determined on the basis of the seriousness of the risk, the frequency of exposure to the risk, the characteristics of the workstation of each worker and the performance of the personal protective equipment.

4. Personal protective equipment is, in principle, intended for personal use.

If the circumstances require personal protective equipment to be worn by more than one person, appropriate measures shall be taken to ensure that such use does not create any health or hygiene problem for the different users.

5. Adequate information on each item of personal protective equipment, required under paragraphs 1 and 2, shall be provided and made available within the undertaking and/or establishment.

6. Personal protective equipment shall be provided free of charge by the employer, who shall ensure its good working order and satisfactory hygienic condition by means of the necessary maintenance, repair and replacements.

However, Member States may provide, in accordance with their national practice, that the worker be asked to contribute towards the cost of certain personal protective equipment in circumstances where use of the equipment is not exclusive to the workplace.

7. The employer shall first inform the worker of the risks against which the wearing of the personal protective equipment protects him.

8. The employer shall arrange for training and shall, if appropriate, organize demonstrations in the wearing of personal protective equipment.

9. Personal protective equipment may be used only for the purposes specified, except in specific and exceptional circumstances.

It must be used in accordance with instructions.

Such instructions must be understandable to the workers.

Article 5

Assessment of personal protective equipment

1. Before choosing personal protective equipment, the employer is required to assess whether the personal protective equipment he intends to use satisfies the requirements of Article 4 (1) and (2).

This assessment shall involve:

(a) an analysis and assessment of risks which cannot be avoided by other means;

(b) the definition of the characteristics which personal protective equipment must have in order to be effective against the risks referred to in (a), taking into account any risks which this equipment itself may create;

(c) comparison of the characteristics of the personal protective equipment available with the characteristics referred to in (b).

2. The assessment provided for in paragraph 1 shall be reviewed if any changes are made to any of its elements.

Article 6 (*)

Rules for use

1. Without prejudice to Articles 3, 4 and 5, Member States shall ensure that general rules are established for the use of personal protective equipment and/or rules covering cases and situations where the employer must provide the personal protective equipment, taking account of Community legislation on the free movement of such equipment.

These rules shall indicate in particular the circumstances or the risk situations in which, without prejudice to the priority to be given to collective means of protection, the use of personal protective equipment is necessary.

Annexes I, II and III, which constitute a guide, contain useful information for establishing such rules.

2. When Member States adapt the rules referred to in paragraph 1, they shall take account of any significant changes to the risk, collective means of protection and personal protective equipment brought about by technological developments.

3. Member States shall consult the employers' and workers' organization on the rules referred to in paragraphs 1 and 2.

Article 7

Information for workers

Without prejudice to Article 10 of Directive 89/391/EEC, workers and/or their representatives shall be informed of all measures to be taken with regard to the health and safety of workers when personal protective equipment is used by workers at work.

Article 8

Consultation of workers and workers' participation

Consultation and participation of workers and/or of their representatives shall take place in accordance with Article 11 of Directive 89/391/EEC on the matters covered by this Directive, including the Annexes thereto.

SECTION III

MISCELLANEOUS PROVISIONS

Article 9

Adjustment of the Annexes

Alterations of a strictly technical nature to Annexes I, II and III resulting from:

— the adoption of technical harmonization and standardization directives relating to personal protective equipment, and/or

— technical progress and changes in international regulations and specifications or knowledge in the field of personal protective equipment,

shall be adopted in accordance with the procedure provided for in Article 17 of Directive 89/391/EEC.

Article 10

Final provisions

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive not later than 31 December 1992. They shall immediately inform the Commission thereof.

(*) See the Commission communication (OJ No C 328, 30. 12. 1989, p. 3).

2. Member States shall communicate to the Commission the text of the provisions of national law which they adopt, as well as those already adopted, in the field covered by this Directive.

3. Member States shall report to the Commission every five years on the practical implementation of the provisions of this Directive, indicating the points of view of employers and workers.

The Commission shall inform the European Parliament, the Council, the Economic and Social Committee, and the Advisory Committee on Safety, Hygiene and Health Protection at Work.

4. The Commission shall report periodically to the European Parliament, the Council and the Economic and Social Committee on the implementation of the Directive in the light of paragraphs 1, 2 and 3.

Article 11

This Directive is addressed to the Member States.

Done at Brussels, 30 November 1989.

For the Council

The President

J. P. SOISSON

ANNEX I

SPECIMEN RISK SURVEY TABLE FOR THE USE OF PERSONAL PROTECTIVE EQUIPMENT

PARTS OF THE BODY			RISKS																				
			PHYSICAL											CHEMICAL						BIOLOGICAL			
			MECHANICAL					THERMAL		ELECTRICAL	RADIATION		NOISE	AEROSOLS			LIQUIDS		GASES, VAPOURS				
			Falls from a height	Blows, cuts, impact, crushing	Stabs, cuts, grazes	Vibration	Slipping, falling over	Heat, fire	Cold		Non-ionizing	Ionizing		Dust, fibres	Fumes	Vapours	Immersion	Splashes, spurts		Harmful bacteria	Harmful viruses	Mycosic fungi	Non-microbiological antigens
HEAD		Cranium																					
		Ears																					
		Eyes																					
		Respiratory tract																					
		Face																					
		Whole head																					
UPPER LIMBS		Hands																					
		Arms (parts)																					
LOWER LIMBS		Foot																					
		Legs (parts)																					
VARIOUS		Skin																					
		Trunk/abdomen																					
		Parenteral passages																					
		Whole body																					

ANNEX II

NON-EXHAUSTIVE GUIDE LIST OF ITEMS OF PERSONAL PROTECTIVE EQUIPMENT

HEAD PROTECTION

- Protective helmets for use in industry (mines, building sites, other industrial uses).
- Scalp protection (caps, bonnets, hairnets — with or without eye shade).
- Protective headgear (bonnets, caps, sou'westers, etc. in fabric, fabric with proofing, etc.).

HEARING PROTECTION

- Earplugs and similar devices.
- Full acoustic helmets.
- Earmuffs which can be fitted to industrial helmets.
- Ear defenders with receiver for LF induction loop.
- Ear protection with intercom equipment.

EYE AND FACE PROTECTION

- Spectacles.
- Goggles.
- X-ray goggles, laser-beam goggles, ultra-violet, infra-red, visible radiation goggles.
- Face shields.
- Arc-welding masks and helmets (hand masks, headband masks or masks which can be fitted to protective helmets).

RESPIRATORY PROTECTION

- Dust filters, gas filters and radioactive dust filters.
- Insulating appliances with an air supply.
- Respiratory devices including a removable welding mask.
- Diving equipment.
- Diving suits.

HAND AND ARM PROTECTION

- Gloves to provide protection:
  - from machinery (piercing, cuts, vibrations, etc.),
  - from chemicals,
  - for electricians and from heat.
- Mittens.
- Finger stalls.
- Oversleeves.
- Wrist protection for heavy work.
- Fingerless gloves.
- Protective gloves.

FOOT AND LEG PROTECTION

- Low shoes, ankle boots, calf-length boots, safety boots.
- Shoes which can be unlaced or unhooked rapidly.

— Shoes with additional protective toe-cap.

— Shoes and overshoes with heat-resistant soles.

— Heat-resistant shoes, boots and overboots.

— Thermal shoes, boots and overboots.

— Vibration-resistant shoes, boots and overboots.

— Anti-static shoes, boots and overboots.

— Insulating shoes, boots and overboots.

— Protective boots for chain saw operators.

— Clogs.

— Kneepads.

— Removable instep protectors.

— Gaiters.

— Removable soles (heat-proof, pierce-proof or sweat-proof).

— Removable spikes for ice, snow or slippery flooring.

SKIN PROTECTION

— Barrier creams/ointments.

TRUNK AND ABDOMEN PROTECTION

— Protective waistcoats, jackets and aprons to provide protection from machinery (piercing, cutting, molten metal splashes, etc.).

— Protective waistcoats, jackets and aprons to provide protection from chemicals.

— Heated waistcoats.

— Life jackets.

— Protective X-ray aprons.

— Body belts.

WHOLE BODY PROTECTION

— **Equipment designed to prevent falls**

  — Fall-prevention equipment (full equipment with all necessary accessories).
  — Braking equipment to absorb kinetic energy (full equipment with all necessary accessories).
  — Body-holding devices (safety harness).

— **Protective clothing**

  — 'Safety' working clothing (two-piece and overalls).
  — Clothing to provide protection from machinery (piercing, cutting, etc.).
  — Clothing to provide protection from chemicals.
  — Clothing to provide protection from molten metal splashes and infra-red radiation.
  — Heat-resistant clothing.
  — Thermal clothing.
  — Clothing to provide protection from radioactive contamination.
  — Dust-proof clothing.
  — Gas-proof clothing.
  — Fluorescent signalling, retro-reflecting clothing and accessories (armbands, gloves, etc.).
  — Protective coverings.

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ANNEX III

NON-EXHAUSTIVE GUIDE LIST OF ACTIVITIES AND SECTORS OF ACTIVITY WHICH MAY REQUIRE THE PROVISION OF PERSONAL PROTECTIVE EQUIPMENT

1. HEAD PROTECTION (SKULL PROTECTION)

Protective helmets

— Building work, particularly work on, underneath or in the vicinity of scaffolding and elevated workplaces, erection and stripping of formwork, assembly and installation work, work on scaffolding and demolition work.

— Work on steel bridges, steel building construction, masts, towers, steel hydraulic structures, blast furnaces, steel works and rolling mills, large containers, large pipelines, boiler plants and power stations.

— Work in pits, trenches, shafts and tunnels.

— Earth and rock works.

— Work in underground workings, quarries, open diggings, coal stock removal.

— Work with bolt-driving tools.

— Blasting work.

— Work in the vicinity of lifts, lifting gear, cranes and conveyors.

— Work with blast furnaces, direct reduction plants, steelworks, rolling mills, metalworks, forging, drop forging and casting.

— Work with industrial furnaces, containers, machinery, silos, bunkers and pipelines.

— Shipbuilding.

— Railway shunting work.

— Slaughterhouses.

2. FOOT PROTECTION

Safety shoes with puncture-proof soles

— Carcase work, foundation work and roadworks.

— Scaffolding work.

— The demolition of carcase work.

— Work with concrete and prefabricated parts involving formwork erection and stripping.

— Work in contractors' yards and warehouses.

— Roof work.

Safety shoes without pierce-proof soles

— Work on steel bridges, steel building construction, masts, towers, lifts, steel hydraulic structures, blast furnaces, steelworks and rolling mills, large containers, large pipelines, cranes, boiler plants and power stations.

— Furnace construction, heating and ventilation installation and metal assembly work.

— Conversion and maintenance work.

— Work with blast furnaces, direct reduction plants, steelworks, rolling mills, metalworks, forging, drop forging, hot pressing and drawing plants.

— Work in quarries and open diggings, coal stock removal.

— Working and processing of rock.

— Flat glass products and container glassware manufacture, working and processing.

— Work with moulds in the ceramics industry.

— Lining of kilns in the ceramics industry.

— Moulding work in the ceramic ware and building materials industry.

— Transport and storage.

— Work with frozen meat blocks and preserved foods packaging.

— Shipbuilding.

— Railway shunting work.

Safety shoes with heels or wedges and pierce-proof soles

— Roof work.

Protective shoes with insulated soles

— Work with and on very hot or very cold materials.

Safety shoes which can easily be removed

— Where there is a risk of penetration by molten substances.

3. EYE OR FACE PROTECTION

Protective goggles, face shields or screens

— Welding, grinding and separating work.

— Caulking and chiselling.

— Rock working and processing.

— Work with bolt-driving tools.

— Work on stock removing machines for small chippings.

— Drop forging.

— The removal and breaking up of fragments.

— Spraying of abrasive substances.

— Work with acids and caustic solutions, disinfectants and corrosive cleaning products.

— Work with liquid sprays.

— Work with and in the vicinity of molten substances.

— Work with radiant heat.

— Work with lasers.

4. RESPIRATORY PROTECTION

Respirators/breathing apparatus

— Work in containers, restricted areas and gas-fired industrial furnaces where there may be gas or insufficient oxygen.

— Work in the vicinity of the blast furnace charge.

— Work in the vicinity of gas converters and blast furnace gas pipes.

— Work in the vicinity of blast furnace taps where there may be heavy metal fumes.

— Work on the lining of furnaces and ladles where there may be dust.

— Spray painting where dedusting is inadequate.

— Work in shafts, sewers and other underground areas connected with sewage.

— Work in refrigeration plants where there is a danger that the refrigerant may escape.

5. HEARING PROTECTION

Ear protectors

— Work with metal presses.

— Work with pneumatic drills.

— The work of ground staff at airports.

— Pile-driving work.

— Wood and textile working.

6. BODY, ARM AND HAND PROTECTION

Protective clothing

— Work with acids and caustic solutions, disinfectants and corrosive cleaning substances.

— Work with or in the vicinity of hot materials and where the effects of heat are felt.

— Work on flat glass products.

— Shot blasting.

— Work in deep-freeze rooms.

Fire-resistant protective clothing

— Welding in restricted areas.

Pierce-proof aprons

— Boning and cutting work.

— Work with hand knives involving drawing the knife towards the body.

Leather aprons

— Welding.

— Forging.

— Casting.

Forearm protection

— Boning and cutting.

Gloves

— Welding.

— Handling of sharp-edged objects, other than machines where there is a danger of the glove's being caught.

— Unprotected work with acids and caustic solutions.

Metal mesh gloves

— Boning and cutting.

— Regular cutting using a hand knife for production and slaughtering.

— Changing the knives of cutting machines.

7. WEATHERPROOF CLOTHING

— Work in the open air in rain and cold weather.

8. REFLECTIVE CLOTHING

— Work where the workers must be clearly visible.

9. SAFETY HARNESSES

— Work on scaffolding.

— Assembly of prefabricated parts.

— Work on masts.

10. SAFETY ROPES

— Work in high crane cabs.

— Work in high cabs of warehouse stacking and retrieval equipment.

— Work in high sections of drilling towers.

— Work in shafts and sewers.

11. SKIN PROTECTION

— Processing of coating materials.

— Tanning.

30. 12. 89 Official Journal of the European Communities No C 328/3

COMMISSION

Commission communication for the implementation of Council Directive 89/656/EEC of 30 November 1989 [1], concerning the assessment of the safety aspects of personal protective equipment with a view to the choice and use thereof

(89/C 328/02)

I. Council Directive 89/656/EEC on the minimum requirements for the use by workers of personal protective equipment lays down in Article 6 (1), that the general Regulations for use shall be established in each of the Member States. These Regulations must indicate in particular the circumstances or risk situations where the use of such equipment is necessary because collective means of protection cannot be used. Article 6 (3) of the said Directive stipulates that the employers' and workers' organizations must be consulted in advance on establishing the above Regulations for use.

II. The Annexes to the Directive, which are indicative and not exhaustive, contain useful information on establishing these Regulations.

The Commission considers that it could be useful to have other information available at the abovementioned consultation, in order to improve its effectiveness. The establishment of high-calibre Regulations for use should in fact be considered as an essential precondition for the optimum use of personal protective equipment. Of this supplementary information, the factors to be taken into account in choosing and using each of the main categories of personal protective equipment should be regarded as important data which would be of assistance to the employers' and workers' organizations at the consultation provided for in Article 6 (3).

III. Generally speaking, the Commission attaches considerable importance to the consultation and participation of workers and/or their representatives in all matters affecting the safety and health of workers (in accordance with the provisions of Article 11 of Council Directive 89/391/EEC of 12 June 1989) [1].

Therefore, in the specific case of the use by workers of personal protective equipment, it is the opinion of the Commission that in implementing Article 8 of the Directive in question, the consultation and participation of the workers should be extended to cover all the data which might be of use, without prejudice to the provisions of the aforementioned Article 8.

IV. With a view therefore to promoting the better implementation of the Council Directive on the minimum health and safety requirements for the use by workers of personal protective equipment, and whereas, taking into account the object of the Directive itself, the circulation of all supplementary relevant information and data should lead to the greater effectiveness of the provisions contained therein, and in particular those appearing in Article 6 (1) and (3) and Article 8, the Commission requests that the Member States ensure, by the method they judge the most appropriate, the widespread circulation of the data contained in the Annex to this communication, and in particular amongst the competent authorities and the employers' and workers' organizations, so that these data may serve as reference documents during implementation of Council Directive 89/656/EEC.

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[1] OJ No L 393, 30. 12. 1989.
[2] OJ No L 183, 29. 6. 1989, p. 1.

ANNEX

Non-exhaustive information for evaluating personal protective equipment

1. Industrial helmets.
2. Goggles and visors.
3. Ear protectors.
4. Respirators.
5. Gloves.
6. Boots and shoes.
7. Protective clothing.
8. Life jackets for industrial use.
9. Protection against falls.

1. INDUSTRIAL HELMETS

Risk	Origin and type of risk	Safety and performance criteria for selection of equipment
RISKS TO BE COVERED		
Mechanical	— Objects falling, impact — Lateral crushing — Stud drivers	— Absorption of impact — Resistance to puncture — Lateral resistance — Resistance to shocks
Electrical	— Low-voltage electricity	— Electrical insulation
Thermal	— Cold, heat — Splashes of molten metal	— Maintenance of characteristics at high and low temperatures — Resistance to splashes of molten metal
Non-visibility	— Not sufficiently noticeable	— Luminous/reflective colour
RISKS ARISING FROM THE EQUIPMENT		
Discomfort, interference with work	— Inadequate comfort	— Ergonomic design: — weight — headroom — head fit — ventilation
Accidents and health hazards	— Poor compatibility — Poor hygiene — Poor stability, helmet falls off — Contact with flames	— Quality of materials — Ease of maintenance — Fit — Non-flammability and resistance to flame
Ageing	— Exposure to weather, ambient conditions, cleaning, use	— Resistance to industrial wear and tear — Maintenance of characteristics throughout useful life

RISKS ARISING FROM THE USE OF THE EQUIPMENT

Inadequate protection	— Wrong choice of equipment	— Select equipment in line with the nature and scale of risks and stress: — follow manufacturer's instructions — follow markings on equipment (e.g. level of protection, special uses) — select equipment to suit user's individual requirements
	— Incorrect use of equipment	— Use equipment appropriately, be aware of risk — Follow manufacturer's instructions
	— Equipment dirty, worn or deteriorated	— Maintain in good condition — Regular checks — Replace in good time — Follow manufacturer's instructions

2. GOGGLES AND VISORS

Risk	Origin and type of risk	Safety and performance criteria for selection of equipment

RISKS TO BE COVERED

Specific	— Stress arising from use — Puncturing by low-power foreign bodies	— Eyepiece with adequate mechanical resistance and shatter-resistant — Imperviousness and resistance
Mechanical	— High-speed particles, splinters, splashing — Stud drivers	— Mechanical resistance
Thermal/Mechanical	— Burning particles at high speed	— Resistance to burning or molten materials
Cold	— Hypothermia of the eyes	— Close fit to face
Chemical	— Irritation from: — gases — aerosols — dusts — fumes	— Imperviousness (lateral protection and chemical resistance)
Radiation	— Technical sources of infra-red, visible and ultraviolet radiation, ionizing radiation and laser rays — Natural radiation: daylight	— Filtering capacity of eyepiece — Imperviousness to radiation of frame — Frame opaque to radiation

RISKS ARISING FROM THE EQUIPMENT

Discomfort, interference with work	— Inadequate comfort: — too bulky — increased perspiration — inadequate grip, contact pressure too high	— Ergonomic design: — reduced bulk — adequate ventilation, anti-misting eyepiece — individual adaptability to the user
Accidents and health hazards	— Poor compatibility — Poor hygiene	— Quality of materials — Ease of maintenance
	— Risk of cuts from sharp edges	— Rounded edges and rims — Use of safety eyepieces

RISKS ARISING FROM THE EQUIPMENT

Accidents and health hazards	— Impairment of vision caused by poor optical quality, e.g. distortion, modification of colours, in particular signals, diffusion — Reduction of field of visibility — Reflection — Sudden severe changes in transparency (light-dark) — Misty eyepieces	— Check optical quality — Use abrasion-proof eyepieces — Eyepieces of adequate size — Anti-reflective eyepieces and frame — Eyepiece light reaction speed (photochromatic) — Anti-misting facility
Ageing	— Exposure to weather, ambient conditions, cleaning, use	— Resistance to industrial wear and tear — Maintenance of characteristics throughout useful life

RISKS ARISING FROM THE USE OF THE EQUIPMENT

Inadequate protection	— Wrong choice of equipment	— Select equipment in line with the type and scale of the risks and stress: — follow manufacturer's instructions — follow markings on equipment (e.g. level of protection, special uses) — Select equipment to suit user's individual requirements
	— Incorrect use of equipment	— Use equipment appropriately, be aware of risk — Follow manufacturer's instructions
	— Equipment dirty, worn or deteriorated	— Maintain in good condition — Regular checks — Replace in good time — Follow manufacturer's instructions

3. EAR PROTECTORS

Risk	Origin and type of risk	Safety and performance criteria for selection of equipment

RISKS TO BE COVERED

Noise	— Continuous noise — Impulse noise	— Sufficient noise reduction for all types of noise
Thermal	— Metal splashing, for example during welding	— Resistance to molten or burning materials

RISKS ARISING FROM THE EQUIPMENT

Discomfort, interference with work	— Inadequate comfort: — too bulky — too much pressure — increased perspiration — inadequate grip	— Ergonomic design: — bulk — pressure when worn and effort required to keep in place — adaptability to individual requirements
Restriction of hearing capacity	— Deterioration of ability to understand words, recognize signals and key sounds during work and to locate direction of noise	— Variation in noise reduction depending on frequency, reduction in hearing performance — Possibility of replacing shells with earplugs — Audio tests before selection — Use of appropriate electro-acoustic protection

RISKS ARISING FROM THE EQUIPMENT

Accidents and health hazards	— Poor compatibility — Poor hygene — Unsuitable materials — Sharp edges — Pulls hair — Contact with burning objects — Contact with flame	— Quality of materials — Ease of maintenance — Possibility of replacing muffs with shells, use of disposable earplugs — Rounded edges and corners — Eliminate elements which pull hair — Resistance to combustion and melting — Non-flammability, resistance to flame
Ageing	— Exposure to weather, ambient conditions, cleaning, use	— Resistance to industrial wear and tear — Maintenance of characteristics throughout useful life

RISKS ARISING FROM THE USE OF THE EQUIPMENT

Inadequate protection	— Wrong choice of equipment	— Select equipment in line with nature and scale of risks and stress: — follow manufacturer's instructions — follow markings on equipment (e.g. level of protection, special uses) — Select equipment to suit user's individual requirements
	— Incorrect use of equipment	— Use equipment appropriate, be aware of risk — Follow manufacturer's instructions
	— Equipment dirty, worn or deteriorated	— Maintain in good condition — Regular checks — Replace in good time — Follow manufacturer's instructions

4. RESPIRATORS

Risk	Origin and type of risk	Safety and performance criteria for selection of equipment

RISKS TO BE COVERED

Effect of dangerous substances in inhaled air	— Particulate pollutants (dust, fumes, aerosols)	— Particle filter of the required efficiency (filter grade), depending on concentration, toxicity/health hazard and size range of particles — Particular attention should be given to liquid particles (droplets)
	— Gaseous and evaporative pollutants	— Selection of suitable gas filter type and appropriate filter grade, depending on concentration, toxicity/health hazard, length of time to be worn and nature of work
	— Particulate and gaseous aerosol pollutants	— Selection of suitable combined filter type according to same criteria as for particle and gas filters
Lack of oxygen in inhaled air	— Oxygen retention — Oxygen pressure	— Guaranteed oxygen supply through equipment — Respect oxygen capacity of equipment in relation to duration of use

RISKS ARISING FROM THE EQUIPMENT

Discomfort, interference with work	— Inadequate comfort: — size — bulk — supply — respiratory resistance — microclimate in respirator — use	— Ergonomic design: — adaptability — small bulk, good weight distribution — no interference with head movements — respiratory resistance and high pressure in respiratory zone — respirators with breathing valve, blower — easy to handle/use
Accidents and health hazards	— Poor compatibility — Poor hygiene — Not airtight (leaks) — Accumulation of CO_2 in inhaled air — Contact with naked flames, sparks, spatters of molten metal — Reduction of field of vision — Contamination	— Quality of materials — Ease of maintenance and disinfection — Airtight fit to the face; imperviousness of equipment — Respirators with breathing valves, blower or CO_2 absorbers — Use of non-flammable materials — Adequate range of field of vision — Resistance, ease of decontamination
Ageing	— Exposure to weather, ambient conditions, cleaning, use	— Resistance to industrial wear and tear — Maintenance of characteristics throughout useful life

RISKS ARISING FROM THE USE OF THE EQUIPMENT

Inadequate protection	— Wrong choice of equipment	— Select equipment in line with nature and scale of risks and stress: — follow manufacturer's instructions — follow markings on equipment (e.g. level of protection, special uses) — observe restrictions on use and duration of use; where oxygen concentration is too high or too low clean-air equipment should be used instead of filtered-air equipment — Select equipment to suit user's individual requirements (possibility of change)
	— Incorrect use of equipment	— Use equipment appropriately, be aware of risk — Follow information and instructions for use provided by manufacturer, safety organizations and test laboratories
	— Equipment dirty, worn or deteriorated	— Maintain in good condition — Regular checks — Respect maximum periods of use — Replace in good time — Follow manufacturer's instructions as safety rules

5. PROTECTIVE GLOVES

Risk	Origin and type of risk	Safety and performance criteria for selection of equipment
RISKS TO BE COVERED		
General	— Contact — Use-related stress	— Area of hand covered — Resistance to tearing, stretching, abrasion
Mechanical	— By abrasive, sharp or pointed objects — Impact	— Resistance to penetration, puncture and cutting — Padding
Thermal	— Burning or cold materials, ambient temperature — Contact with naked flame — Effects of welding work	— Insulation against cold and heat — Non-flammability, resistance to flame — Protection from and resistance to radiation and splashes of molten metal
Electrical	— Electricity	— Electrical insulation
Chemical	— Action of chemicals	— Imperviousness, resistance
Vibration	— Mechanical vibration	— Vibration reduction
Contamination	— Contacts with radioactive materials	— Imperviousness, ease of decontamination, resistance
RISKS ARISING FROM THE EQUIPMENT		
Discomfort, interference with work	— Inadequate comfort	— Ergonomic design: — bulk, grading of sizes, surface area, comfort, permeability to water vapour
Accidents and health hazards	— Poor compatibility — Poor hygiene — Gloves stick to the skin	— Quality of materials — Ease of maintenance — Good shaping design
Ageing	— Exposure to weather, ambient conditions, cleaning, use	— Resistance to industrial wear and tear — Maintenance of characteristics throughout useful life — Maintenance of size
RISKS ARISING FROM THE USE OF THE EQUIPMENT		
Inadequate protection	— Wrong choice of equipment	— Select equipment in line with nature and scale of risks and stress: — follow manufacturer's instructions — follow markings on equipment (e.g. level of protection, special uses) — Select equipment to suit user's individual requirements
	— Incorrect use of equipment	— Use equipment appropriately, be aware of risk — Follow manufacturer's instructions
	— Equipment dirty, worn or deteriorated	— Maintain in good condition — Regular checks — Replace in good time — Follow manufacturer's instructions

6. SAFETY BOOTS AND SHOES

Risk	Origin and type of risk	Safety and perfoemance criteria for selection of equipment
	RISKS TO BE COVERED	
Mechanical	— Objects falling on or crushing the front of the foot — Falls and impact on heel — Falls as a result of slipping — Treading on pointed or sharp objects — Damage to: — the malleoli — the metatarsus — the leg	— Resistance of the front of the boot or shoe — Energy-absorbing capacity of the heel — Reinforcement of instep — Resistance to slipping of sole — Puncture-proof sole — Protection for: — the malleoli — the metatarsus — the leg
Electrical	— Low and medium voltage — High voltage	— Electrical insulation — Electrical conductibility
Thermal	— Cold, heat — Molten metal spatter	— Thermal insulation — Resistance, imperviousness
Chemical	— Harmful dusts or liquids	— Resistance and impermeability
	RISKS ARISING FROM THE EQUIPMENT	
Discomfort, interference with work	— Inadequate comfort: — the shoe does not fit — poor absorption of perspiration — fatigue from using the equipment — the shoe leaks	— Ergonomic design: — shape, padding, size — vapour permeability and water absorption capacity — flexibility, bulk — waterproofing
Accidents and health hazards	— Poor compatibility — Poor hygiene — Risk of dislocation and sprains because of poor foot holding	— Quality of materials — Ease of maintenance — Stiffness across width of the shoe and arch support, fit
Ageing	— Exposure to weather, ambient conditions, cleaning, use	— Resistance to corrosion, abrasion and fatigue of the sole — Resistance to industrial wear and tear — Maintenance of characteristics throughout useful life
Static electricity	— Discharge of static electricity	— Electrical conductibility
	RISKS ARISING FROM THE USE OF THE EQUIPMENT	
Inadequate protection	— Wrong choice of equipment	— Select equipment in line with nature and scale of risks and stress: — follow manufacturer's instructions — follow markings on equipment (e.g. level of protection, special uses) — Select equipment to suit user's individual requirements

RISKS ARISING FROM THE EQUIPMENT

Inadequate protection	— Incorrect use of equipment	— Use equipment appropriately, be aware of risk — Follow manufacturer's instructions
	— Equipment dirty, worn or deteriorated	— Maintain in good condition — Regular checks — Replace in good time — Follow manufacturer's instructions

7. PROTECTIVE CLOTHING

Risk	Origin and type of risk	Safety and performance criteria for selection of equipment
RISKS TO BE COVERED		
General	— Contact — Stress arising from use	— Coverage of torso — Resistance to tearing, stretching, prevention of spreading of tears
Mechanical	— Abrasive, pointed and sharp objects	— Resistance to penetration
Thermal	— Burning or cold materials, ambient temperature — Contact with naked flames — Welding work	— Insulation against cold and heat, maintenance of protective qualities — Non-flammability, resistance to flame — Protection from and resistance to radiation and splashes of molten metal
Electrical	— Electricity	— Electrical insulation
Chemical	— Chemical damage	— Impermeability and resistance to chemical damage
Humidity	— Clothing leaks	— Waterproofing
Non-visibility	— Clothing difficult to see	— Bright or reflective colour
Contamination	— Contact with radioactive materials	— Impermeability, ease of decontamination, resistance
RISKS ARISING FROM THE EQUIPMENT		
Discomfort, interference with work	— Inadequate comfort	— Ergonomic design: — size, grading of sizes, surface area, comfort, permeability to water vapour
Accidents and health hazards	— Poor compatibility — Poor hygiene — Clothing sticks to the skin	— Quality of materials — Ease of maintenance — Good shaping design
Ageing	— Exposure to weather, ambient conditions, cleaning, use	— Resistance to industrial wear and tear — Maintenance of characteristics throughout useful life — Maintenance of size

RISKS ARISING FROM THE USE OF THE EQUIPMENT

Inadequate protection	— Wrong choice of equipment	— Select equipment in line with nature and scale of risks and stress: — follow manufacturer's instructions — follow markings on equipment (e.g. level of protection, special uses) — Select equipment to suit user's individual requirements
	— Incorrect use of equipment	— Use equipment appropriately, be aware of risk — Follow manufacturer's instructions
	— Equipment dirty, worn or deteriorated	— Maintain in good condition — Regular checks — Replace in good time — Follow manufacturer's instrucitons

8. LIFE JACKETS FOR INDUSTRIAL USE

Risk	Origin and type of risk	Safety and performance criteria for selection of equipment

RISKS TO BE COVERED

Drowning	— Fall into water of a person in work clothing, unconscious or deprived of physical faculties	— Buoyancy — Righting ability even if wearer is unconscious — Inflation time — Triggering of automatic inflation — Ability to keep mouth and nose out of the water

RISKS ARISING FROM THE EQUIPMENT

Discomfort, interference with work	— Constraint caused by size or poor design	— Ergonomic design which does not restrict vision, respiration or movement
Accidents and health hazards	— Jacket falls off if wearer falls into water	— Design (stays in position)
	— Damage to jacket during use	— Resistance to mechanical damage (impact, crushing, perforation)
	— Function of inflation system affected	— Maintenance of safety qualities under all conditions — Type of gas used for inflation (size of container, whether or not gas is harmful) — Efficiency of automatic inflation device (also after long storage) — Possibility of triggering inflation manually — Provision of a device for oral inflation even while jacket is worn
	— Inappropriate use	— Outline instructions for use marked on jacket indelibly
Ageing	— Exposure to weather, ambient conditions, cleaning, use	— Resistance to chemical, biological and physical attack: seawater, detergents, hydrocarbons, micro-organisms (bacteria, mould) — Resistance to climatic factors: thermal stress, humidity, rain, splashing, solar radiation — Resistance of materials and protective covers: tearing, abrasion, non-flammability, spattering of molten metal (welding)

RISKS ARISING FROM THE USE OF THE EQUIPMENT

Inadequate protection	— Wrong choice of equipment	— Select equipment in line with nature and scale of risks and stress: — follow manufacturer's instructions — follow markings on equipment (e.g. level of protection, special uses) — Select equipment to suit user's individual requirements
	— Incorrect use of equipment	— Use equipment appropriately, be aware of risk — Follow manufacturer's instructions
	— Equipment dirty, worn or deteriorated	— Maintain in good condition — Regular checks — Replace in good time — Follow manufacturer's instructions

9. EQUIPMENT FOR PROTECTION AGAINST FALLS

Risk	Origin and type of risk	Safety and performance criteria for selection of equipment

RISKS TO BE COVERED

Impact	— Falls from a height — Loss of balance	— Resistance and suitability of equipment and anchorage point

RISKS ARISING FROM THE EQUIPMENT

Discomfort, interference with work	— Inadequate ergonomic design	— Ergonomic design: — method of construction — bulk — flexibility — ease of putting on
	— Restriction of freedom of movement	— gripping device with automatic length adjustment
Accidents and health hazards	— Dynamic stress exerted on the user and equipment during braking	— Suitability of equipment: — distribution of braking stress to parts of the body with absorption capacity — reduction of braking force — braking distance — position of attaching device
	— Oscillation and lateral impact	— Anchorage point above the head, anchorage at other points
	— Static stress exerted on suspended body by straps	— Design of equipment (distribution of stress)
	— Slipping of link device	— Short link device (e.g. safety harness, espace line)
Ageing	— Change in mechanical resistance resulting from exposure to weather, ambient conditions, cleaning and use	— Resistance to corrosion — Resistance to industrial wear and tear — Maintenance of characteristics throughout useful life

RISKS ARISING FROM THE USE OF THE EQUIPMENT

Inadequate protection	— Wrong choice of equipment	— Select equipment in line with nature and scale of risks and stress: — follow manufacturer's instructions — follow markings on equipment (e.g. level of protection, special uses) — Select equipment to suit user's individual requirements
	— Incorrect use of equipment	— Use equipment appropriately, be aware of risk — Follow manufacturer's instructions
	— Equipment dirty, worn or deteriorated	— Maintain in good condition — Regular checks — Replace in good time — Follow manufacturer's instructions

COUNCIL DIRECTIVE

of 29 May 1990

on the minimum health and safety requirements for the manual handling of loads where there is a risk particularly of back injury to workers (fourth individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC)

(90/269/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 118a thereof

Having regard to the Commission proposal (1) submitted after consultation with the Advisory Committee on Safety, Hygiene and Health Protection at Work,

In cooperation with the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee(3),

Whereas Article 118a of the Treaty provides that the Council shall adopt, by means of Directives, minimum requirements for encouraging improvements, especially in the working environment, to guarantee a better level of protection of the health and safety of workers;

Whereas, pursuant to that Article, such Directives must avoid imposing administrative, financial and legal constraints in a way which would hold back the creation and development of small and medium-sized undertakings;

Whereas the Commission communication on its programme concerning safety, hygiene and health at work (4), provides for the adoption of Directives designed to guarantee the health and safety of workers at the workplace;

Whereas the Council, in its resolution of 21 December 1987 on safety, hygiene and health at work (5), took note of the Commission's intention of submitting to the Council in the near future a Directive on protection against the risks resulting from the manual handling of heavy loads;

Whereas compliance with the minimum requirements designed to guarantee a better standard of health and safety at the workplace is essential to ensure the health and safety of workers;

Whereas this Directive is an individual Directive within the meaning of Article 16 (1) of Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the health and safety of workers at work (6); whereas therefore the provisions of the said Directive are fully applicable to the field of the manual handling of loads where there is a risk particularly of back injury to workers, without prejudice to more stringent and/or specific provisions set out in this Directive;

Whereas this Directive constitutes a practical step towards the achievement of the social dimension of the internal market;

Whereas, pursuant to Decision 74/325/EEC (7), the Advisory Committee on Safety, Hygiene and Health Protection at Work shall be consulted by the Commission with a view to drawing up proposals in this field,

HAS ADOPTED THIS DIRECTIVE:

SECTION I

GENERAL PROVISIONS

Article 1

Subject

1. This Directive, which is the fourth individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC, lays down minimum health and safety requirements for the manual handling of loads where there is a risk particularly of back injury to workers.

2. The provisions of Directive 89/391/EEC shall be fully applicable to the whole sphere referred to in paragraph 1, without prejudice to more restrictive and/or specific provisions contained in this Directive.

Article 2

Definition

For the purposes of this Directives, 'manual handling of loads' means any transporting or supporting of a load, by one

(1) OJ No C 117, 4. 5. 1988, p. 8.
(2) OJ No C 326, 19. 12. 1988, p. 137 and OJ No C 96, 17. 4. 1990, p. 82.
(3) OJ No C 318, 12. 12. 1988, p. 37.
(4) OJ No C 28, 3. 2. 1988, p. 3.
(5) OJ No C 28, 3. 2. 1988, p. 1.
(6) OJ No L 183, 29. 6. 1989, p. 1.
(7) OJ No L 185, 9. 7. 1974, p. 15.

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or more workers, including lifting, putting down, pushing, pulling, carrying or moving of a load, which, by reason of its characteristics or of unfavourable ergonomic conditions, involves a risk particularly of back injury to workers.

SECTION II

EMPLOYERS' OBLIGATIONS

Article 3

General provision

1. The employer shall take appropriate organizational measures, or shall use the appropriate means, in particular mechanical equipment, in order to avoid the need for the manual handling of loads by workers.

2. Where the need for the manual handling of loads by workers cannot be avoided, the employer shall take the appropriate organizational measures, use the appropriate means or provide workers with such means in order to reduce the risk involved in the manual handling of such loads, having regard to Annex I.

Article 4

Organization of workstations

Wherever the need for manual handling of loads by workers cannot be avoided, the employer shall organize workstations in such a way as to make such handling as safe and healthy as possible and:

(a) assess, in advance if possible, the health and safety conditions of the type of work involved, and in particular examine the characteristics of loads, taking account of Annex I;

(b) take care to avoid or reduce the risk particularly of back injury to workers, by taking appropriate measures, considering in particular the characteristics of the working environment and the requirements of the activity, taking account of Annex I.

Article 5

Reference to Annex II

For the implementation of Article 6 (3) (b) and Articles 14 and 15 of Directive 89/391/EEC, account should be taken of Annex II.

Article 6

Information for, and training of, workers

1. Without prejudice to Article 10 of Directive 89/391/EEC, workers and/or their representatives shall be informed of all measures to be implemented, pursuant to this Directive, with regard to the protection of safety and of health.

Employers must ensure that workers and/or their representatives receive general indications and, where possible, precise information on:

— the weight of a load,

— the centre of gravity of the heaviest side when a package is eccentrically loaded.

2. Without prejudice to Article 12 of Directive 83/391/EEC, employers must ensure that workers receive in addition proper training and information on how to handle loads correctly and the risks they might be open to particularly if these tasks are not performed correctly, having regard to Annexes I and II.

Article 7

Consultation of workers and workers' participation

Consultation and participation of workers and/or of their representatives shall take place in accordance with Article 11 of Directive 89/391/EEC on matters covered by this Directive, including the Annexes thereto.

SECTION III

MISCELLANEOUS PROVISIONS

Article 8

Adjustment of the Annexes

Alterations of a strictly technical nature to Annexes I and II resulting from technical progress and changes in international regulations and specifications or knowledge in the field of the manual handling of loads shall be adopted in accordance with the procedure provided for in Article 17 of Directive 89/391/EEC.

Article 9

Final provisions

1. Member States shall bring into force the laws, regulations and administrative provisions needed to comply with this Directive not later than 31 December 1992.

They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the text of the provisions of national law which they adopt, or have adopted, in the field covered by this Directive.

3. Member States shall report to the Commission every four years on the practical implementation of the provisions of this Directive, indicating the points of view of employers and workers.

The Commission shall inform the European Parliament, the Council, the Economic and Social Committee and the Advisory Committee on Safety, Hygiene and Health Protection at Work thereof.

4. The Commission shall report periodically to the European Parliament, the Council and the Economic and Social Committee on the implementation of the Directive in the light of paragraphs 1, 2 and 3.

Article 10

This Directive is addressed to the Member States.

Done at Brussels, 29 May 1990.

For the Council

The President

B. AHERN

ANNEX I (*)

REFERENCE FACTORS

(Article 3 (2), Article 4 (a) and (b) and Article 6 (2))

1. **Characteristics of the load**

The manual handling of a load may present a risk particularly of back injury if it is:

— too heavy or too large,

— unwieldy or difficult to grasp,

— unstable or has contents likely to shift,

— positioned in a manner requiring it to be held or manipulated at a distance from the trunk, or with a bending or twisting of the trunk,

— likely, because of its contours and/or consistency, to result in injury to workers, particularly in the event of a collision.

2. **Physical effort required**

A physical effort may present a risk particularly of back injury if it is:

— too strenuous,

— only achieved by a twisting movement of the trunk,

— likely to result in a sudden movement of the load,

— made with the body in an unstable posture.

3. **Characteristics of the working environment**

The characteristics of the work environment may increase a risk particularly of back injury if:

— there is not enough room, in particular vertically, to carry out the activity,

— the floor is uneven, thus presenting tripping hazards, or is slippery in relation to the worker's footwear,

— the place of work or the working environment prevents the handling of loads at a safe height or with good posture by the worker,

— there are variations in the level of the floor or the working surface, requiring the load to be manipulated on different levels,

— the floor or foot rest is unstable,

— the temperature, humidity or ventilation is unsuitable.

4. **Requirements of the activity**

The activity may present a risk particularly of back injury if it entails one or more of the following requirements:

— over-frequent or over-prolonged physical effort involving in particular the spine,

— an insufficient bodily rest or recovery period,

— excessive lifting, lowering or carrying distances,

— a rate of work imposed by a process which cannot be altered by the worker.

(*) With a view to making a multi-factor analysis, reference may be made simultaneously to the various factors listed in Annexes I and II.

ANNEX II (*)

INDIVIDUAL RISK FACTORS

(Articles 5 and 6 (2))

The worker may be at risk if he/she:

— is physically unsuited to carry out the task in question,

— is wearing unsuitable clothing, footwear or other personal effects,

— does not have adequate or appropriate knowledge or training.

(*) With a view to multi-factor analysis, reference may be made simultaneously to the various factors listed in Annexes I and II.

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COUNCIL DIRECTIVE

of 29 May 1990

on the minimum safety and health requirements for work with display screen equipment (fifth individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC)

(90/270/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 118a thereof,

Having regard to the Commission proposal (1) drawn up after consultation with the Advisory Committee on Safety, Hygiene and Health Protection at Work,

In cooperation with the European Parliament (2)

Having regard to the opinion of the Economic and Social Committee (3),

Whereas Article 118a of the Treaty provides that the Council shall adopt, by means of Directives, minimum requirements designed to encourage improvements, especially in the working environment, to ensure a better level of protection of workers' safety and health;

Whereas, under the terms of that Article, those Directives shall avoid imposing administrative, financial and legal constraints, in a way which would hold back the creation and development of small and medium-sized undertakings;

Whereas the communication from the Commission on its programme concerning safety, hygiene and health at work (4) provides for the adoption of measures in respect of new technologies; whereas the Council has taken note thereof in its resolution of 21 December 1987 on safety, hygiene and health at work (5);

Whereas compliance with the minimum requirements for ensuring a better level of safety at workstations with display screens is essential for ensuring the safety and health of workers;

Whereas this Directive is an individual Directive within the meaning of Article 16 (1) of Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work (6); whereas the provisions of the latter are therefore fully applicable to the use by workers of display screen equipment, without prejudice to more stringent and/or specific provisions contained in the present Directive;

Whereas employers are obliged to keep themselves informed of the latest advances in technology and scientific findings concerning workstation design so that they can make any changes necessary so as to be able to guarantee a better level of protection of workers' safety and health;

Whereas the ergonomic aspects are of particular importance for a workstation with display screen equipment;

Whereas this Directive is a practical contribution towards creating the social dimension of the internal market;

Whereas, pursuant to Decision 74/325/EEC (7), the Advisory Committee on Safety, Hygiene and Health Protection at Work shall be consulted by the Commission on the drawing-up of proposals in this field,

HAS ADOPTED THIS DIRECTIVE:

SECTION I

GENERAL PROVISIONS

Article 1

Subject

1. This Directive, which is the fifth individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC, lays down minimum safety and health requirements for work with display screen equipment as defined in Article 2.

2. The provisions of Directive 89/391/EEC are fully applicable to the whole field referred to in paragraph 1, without prejudice to more stringent and/or specific provisions contained in the present Directive.

(1) OJ No C 113, 29. 4. 1988, p. 7 and OJ No C 130, 26. 5. 1989, p. 5.
(2) OJ No C 12, 16. 1. 1989, p. 92 and OJ No C 113, 7. 5. 1990.
(3) OJ No C 318, 12. 12. 1988, p. 32.
(4) OJ No C 28, 3. 2. 1988, p. 3.
(5) OJ No C 28, 3. 2. 1988, p. 1.
(6) OJ No L 183, 29. 6. 1989, p. 1.
(7) OJ No L 185, 9. 7. 1974, p. 15.

3. This Directive shall not apply to:

(a) drivers' cabs or control cabs for vehicles or machinery;

(b) computer systems on board a means of transport;

(c) computer systems mainly intended for public use;

(d) 'portable' systems not in prolonged use at a workstation;

(e) calculators, cash registers and any equipment having a small data or measurement display required for direct use of the equipment;

(f) typewriters of traditional design, of the type known as 'typewriter with window'.

Article 2

Definitions

For the purpose of this Directive, the following terms shall have the following meanings:

(a) *display screen equipment:* an alphanumeric or graphic display screen, regardless of the display process employed;

(b) *workstation*: an assembly comprising display screen equipment, which may be provided with a keyboard or input device and/or software determining the operator/machine interface, optional accessories, peripherals including the diskette drive, telephone, modem, printer, document holder, work chair and work desk or work surface, and the immediate work environment;

(c) *worker*: any worker as defined in Article 3 (a) of Directive 89/391/EEC who habitually uses display screen equipment as a significant part of his normal work.

SECTION II

EMPLOYERS' OBLIGATIONS

Article 3

Analysis of workstations

1. Employers shall be obliged to perform an analysis of workstations in order to evaluate the safety and health conditions to which they give rise for their workers, particularly as regards possible risks to eyesight, physical problems and problems of mental stress.

2. Emyployers shall take appropriate measures to remedy the risks found, on the basis of the evaluation referred to in paragraph 1, taking account of the additional and/or combined effects of the risks so found.

Article 4

Workstations put into service for the first time

'Employers must take the appropriate steps to ensure that workstations first put into service after 31 December 1992 meet the minimum requirements laid down in the Annex.

Article 5

Workstations already put into service

Employers must take the appropriate steps to ensure that workstations already put into service on or before 31 December 1992 are adapted to comply with the minimum requirements laid down in the Annex not later than four years after that date.

Article 6

Information for, and training of, workers

1. Without prejudice to Article 10 of Directive 89/391/EEC, workers shall receive information on all aspects of safety and health relating to their workstation, in particular information on such measures applicable to workstations as are implemented under Articles 3, 7 and 9.

In all cases, workers or their representatives shall be informed of any health and safety measure taken in compliance with this Directive.

2. Without prejudice to Article 12 of Directive 89/391/EEC, every worker shall also receive training in use of the workstation before commencing this type of work and whenever the organization of the workstation is substantially modified.

Article 7

Daily work routine

The employer must plan the worker's activities in such a way that daily work on a display screen is periodically interrupted by breaks or changes of activity reducing the workload at the display screen.

Article 8

Worker consultation and participation

Consultation and participation of workers and/or their representatives shall take place in accordance with Article 11 of Directive 89/391/EEC on the matters covered by this Directive, including its Annex.

Article 9

Protection of workers' eyes and eyesight

1. Workers shall be entitled to an appropriate eye and eyesight test carried out by a person with the necessary capabilities:

— before commencing display screen work,

— at regular intervals thereafter, and

— if they experience visual difficulties which may be due to display screen work.

2. Workers shall be entitled to an ophthalmological examination if the results of the test referred to in paragraph 1 show that this is necessary.

3. If the results of the test referred to in paragraph 1 or of the examination referred to in paragraph 2 show that it is necessary and if normal corrective appliances cannot be used, workers must be provided with special corrective appliances appropriate for the work concerned.

4. Measures taken pursuant to this Article may in no circumstances involve workes in additional financial cost.

5. Protection of workers' eyes and eyesight may be provided as part of a national health system.

SECTION III

MISCELLANEOUS PROVISIONS

Article 10

Adaptations to the Annex

The strictly technical adaptations to the Annex to take account of technical progress, developments in international regulations and specifications and knowledge in the field of display screen equipment shall be adopted in accordance with the procedure laid down in Article 17 of Directive 89/391/EEC.

Article 11

Final provisions

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 31 December 1992.

They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the texts of the provisions of national law which they adopt, or have already adopted, in the field covered by this Directive.

3. Member States shall report to the Commission every four years on the practical implementation of the provisions of this Directive, indicating the points of view of employers and workers.

The Commission shall inform the European Parliament, the Council, the Economic and Social Committee and the Advisory Committee on Safety, Hygiene and Health Protection at Work.

4. The Commission shall submit a report on the implementation of this Directive at regular intervals to the European Parliament, the Council and the Economic and Social Committee, taking into account paragraphs 1, 2 and 3.

Article 12

This Directive is addressed to the Member States.

Done at Brussels, 29 May 1990.

For the Council
The President
B. AHERN

Annex

MINIMUM REQUIREMENTS

(Articles 4 and 5)

Preliminary remark

The obligations laid down in this Annex shall apply in order to achieve the objectives of this Directive and to the extent that, firstly, the components concerned are present at the workstation, and secondly, the inherent requirements or characteristics of the task do not preclude it.

1. EQUIPMENT

(a) **General comment**

The use as such of the equipment must not be a source of risk for workers.

(b) **Display screen**

The characters on the screen shall be well-defined and clearly formed, of adequate size and with adequate spacing between the characters and lines.

The image on the screen should be stable, with no flickering or other forms of instability.

The brightness and/or the contrast between the characters and the background shall be easily adjustable by the operator, and also be easily adjustable to ambient conditions.

The screen must swivel and tilt easily and freely to suit the needs of the operator.

It shall be possible to use a separate base for the screen or an adjustable table.

The screen shall be free of reflective glare and reflections liable to cause discomfort to the user.

(c) **Keyboard**

The keyboard shall be tiltable and separate from the screen so as to allow the worker to find a comfortable working position avoiding fatigue in the arms or hands.

The space in front of the keyboard shall be sufficient to provide support for the hands and arms of the operator.

The keyboard shall have a matt surface to avoid reflective glare.

The arrangement of the keyboard and the characteristics of the keys shall be such as to facilitate the use of the keyboard.

The symbols on the keys shall be adequately contrasted and legible from the design working position.

(d) **Work desk or work surface**

The work desk or work surface shall have a sufficiently large, low-reflectance surface and allow a flexible arrangement of the screen, keyboard, documents and related equipment.

The document holder shall be stable and adjustable and shall be positioned so as to minimize the need for uncomfortable head and eye movements.

There shall be adequate space for workers to find a comfortable position.

(e) **Work chair**

The work chair shall be stable and allow the operator easy freedom of movement and a comfortable position.

The seat shall be adjustable in height.

The seat back shall be adjustable in both height and tilt.

A footrest shall be made available to any one who wishes for one.

2. ENVIRONMENT

(a) **Space requirements**

The workstation shall be dimensioned and designed so as to provide sufficient space for the user to change position and vary movements.

(b) **Lighting**

Room lighting and/or spot lighting (work lamps) shall ensure satisfactory lighting conditions and an appropriate contrast between the screen and the background environment, taking into account the type of work and the user's vision requirements.

Possible disturbing glare and reflections on the screen or other equipment shall be prevented by coordinating workplace and workstation layout with the positioning and technical characteristics of the artificial light sources.

(c) **Reflections and glare**

Workstations shall be so designed that sources of light, such as windows and other openings, transparent or translucid walls, and brightly coloured fixtures or walls cause no direct glare and, as far as possible, no reflections on the screen.

Windows shall be fitted with a suitable system of adjustable covering to attenuate the daylight that falls on the workstation.

(d) **Noise**

Noise emitted by equipment belonging to workstation(s) shall be taken into account when a workstation is being equipped, in particular so as not to distract attention or disturb speech.

(e) **Heat**

Equipment belonging to workstation(s) shall not produce excess heat which could cause discomfort to workers.

(f) **Radiation**

All radiation with the exception of the visible part of the electromagnetic spectrum shall be reduced to negligible levels from the point of view of the protection of workers' safety and health.

(g) **Humidity**

An adequate level of humidity shall be established and maintained.

3. OPERATOR/COMPUTER INTERFACE

In designing, selecting, commissioning and modifying software, and in designing tasks using display screen equipment, the employer shall take into account the following principles:

(a) software must be suitable for the task;

(b) software must be easy to use and, where appropriate, adaptable to the operator's level of knowledge or experience; no quantitative or qualitative checking facility may be used without the knowledge of the workers;

(c) systems must provide feedback to workers on their performance;

(d) systems must display information in a format and at a pace which are adapted to operators;

(e) the principles of software ergonomics must be applied, in particular to human data processing.

COUNCIL DIRECTIVE

of 25 July 1977

on the approximation of the laws, regulations and administrative provisions of the Member States relating to the provision of safety signs at places of work

(77/576/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament [1],

Having regard to the opinion of the Economic and Social Committee [2],

Whereas, in its resolution of 21 January 1974 concerning a social action programme [3], the Council affirmed the need to improve safety and protection of health in places of work, as part of the improvement of living and working conditions;

Whereas the freedom of movement of persons and services has considerably increased the risk of accidents at work and occupational diseases, in particular because of the differences in the organization of work within the Member States, the different languages and the resulting misunderstandings and errors; whereas these difficulties, which constitute an obstacle to the functioning of the common market, can be reduced by the introduction of a Community system of safety signs;

Whereas the use of uniform safety signs has positive effects both for workers at places of work, inside or outside undertakings, and for other persons having access to such places;

Whereas a Community system of safety signs can be effective only if it is ensured by means of unified provisions, if the presentation of the signs is as simple and striking as possible, if it makes the minimum use of explanatory texts and, furthermore, if those concerned receive full and repeated information thereon;

Whereas technical progress and the future development of international methods of signposting require that safety signs be brought up to date; whereas, in order to facilitate the carrying out of the necessary measures with regard to Community signs, close collaboration should be instituted between the Member States and the Commission; whereas a Special Committee should be set up for the purpose,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. This Directive shall apply to safety signs at places of work.

2. This Directive shall not apply to:

(a) signs used in rail, road, inland waterway, marine or air transport;

(b) signs laid down for the placing of dangerous substances and preparations on the market;

(c) coal mines.

Article 2

1. For the purposes of this Directive:

(a) *system of safety signs*

means a system of signs referring to a specific object or situation and providing safety information by means of a safety colour or sign;

(b) *safety colour*

means a colour to which a specific safety meaning is assigned;

[1] OJ No C 178, 2. 8. 1976, p. 57.
[2] OJ No C 278, 24. 11. 1976, p. 3.
[3] OJ No C 13, 12. 2. 1974, p. 1.

(c) *contrasting colour*

means a colour contrasting with the safety colour and providing additional information;

(d) *safety sign*

means a sign combining geometrical shape, colour and symbol to provide specific safety information;

(e) *prohibition sign*

means a safety sign prohibiting behaviour likely to cause danger;

(f) *warning sign*

means a safety sign giving warning of a hazard;

(g) *mandatory sign*

means a safety sign prescribing a specific obligation;

(h) *emergency sign*

means a safety sign indicating, in the event of danger, an emergency exit, the way to an emergency installation or the location of a rescue appliance;

(i) *information sign*

means a safety sign providing safety information other than that referred to in points (e) to (h);

(j) *additional sign*

means a safety sign used only in conjunction with one of the safety signs referred to in points (e) to (h) and providing additional information;

(k) *symbol*

means a pictural representation, describing a specific situation, used on one of the safety signs referred to in points (e) to (h).

2. The meaning and use of safety and contrast colours and the shape, design and meaning of safety signs shall be as defined in Annex I.

Article 3

Member States shall take all necessary measures to ensure that:

— safety signs at all places of work conform to the principles laid down in Annex I,

— only those safety signs defined in Annex II are used to indicate the dangerous situations and to provide the information specified in that Annex;

— road traffic signs in force are used to regulate internal works traffic.

Article 4

Any amendments required to adapt Annex I, points 2 to 6, and Annex II to technical progress and to future developments in international methods regarding signs shall be adopted in accordance with the procedure laid down in Article 6.

Article 5

1. A Committee of Representatives of the Member States, with a Commission representative as chairman, is hereby set up.

2. The Committee shall establish its rules of procedure.

Article 6

1. Where the procedure laid down in this Article is invoked, the matter shall be referred to the Committee by its chairman, either on his own initiative or at the request of a representative of a Member State.

2. The Commission representative shall submit to the Committee a draft of the measures to be taken. The Committee shall give its opinion on the draft within the time laid down by the chairman, having regard to the urgency of the matter. Decisions shall be taken by a majority of 41 votes, the votes of the Member States being weighted as laid down in Article 148 (2) of the Treaty. The chairman shall not vote.

3. (a) Proposed measures which are in accordance with the opinion of the Committee shall be taken by the Commission.

(b) Where the proposed measures are not in accordance with the opinion of the Committee, or if no opinion is delivered, the Commission shall forthwith submit to the Council a proposal on the measures to be taken. The Council shall act by a qualified majority.

(c) If the Council has not acted within three months of receiving the proposal, the

proposed measures shall be adopted by the Commission.

Article 7

1. Member States shall adopt and publish by 1 January 1979 the measures necessary to comply with this Directive and shall inform the Commission immediately thereof. They shall apply these measures from 1 January 1981 at the latest.

Done at Brussels, 25 July 1977.

2. Member States shall communicate to the Commission the text of any national provisions which they adopt in the field covered by this Directive.

Article 8

This Directive is addressed to the Member States.

For the Council

The President

H. SIMONET

ANNEX I

Basic principles of the system of safety signs

1. GENERAL

1.1. The objective of the system of safety signs is to draw attention rapidly and unambiguously to objects and situations capable of causing specific hazards.

1.2. Under no circumstances is the system of safety signs a substitute for the requisite protective measures.

1.3. The system of safety signs may be used only to give information related to safety.

1.4. The effectiveness of the system of safety signs is dependent in particular on the provision of full and constantly repeated information to all persons likely to benefit therefrom.

2. SAFETY COLOURS AND CONTRASTING COLOURS

2.1. **Meaning of safety colours**

Table 1

Safety colour	Meaning or purpose	Examples of use
Red	Stop Prohibition	Stop signs Emergency shutdown devices Prohibition signs
	This colour is also used to identify fire-fighting equipment.	
Yellow	Caution! Possible danger	Identification of dangers (fire, explosion, radiation, chemical hazards, etc.) Identification of steps, dangerous passages, obstacles
Green	No danger First aid	Identification of emergency routes and emergency exits Safety showers First aid stations and rescue points
Blue (1)	Mandatory signs Information	Obligation to wear individual safety equipment Location of telephone

(1) Counts as a safety colour only when used in conjunction with a symbol or words on a mandatory sign or information sign bearing instructions relating to technical prevention.

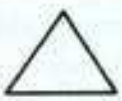
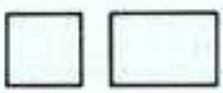
2.2. **Contrasting colours and symbol colours**

Table 2

Safety colour	Contrasting colour	Symbol colour
Red	White	Black
Yellow	Black	Black
Green	White	White
Blue	White	White

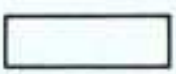
3. GEOMETRICAL FORM AND MEANING OF SAFETY SIGNS

Table 3

Geometrical form	Meaning
	Mandatory and prohibition signs
	Warning signs
	Emergency, information and additional signs

4. COMBINATIONS OF SHAPES AND COLOURS AND THEIR MEANINGS FOR SIGNS

Table 4

Shape / Colour			
Red	Prohibition		Fire-fighting equipment
Yellow		Caution, possible danger	
Green			No danger Rescue equipment
Blue	Mandatory		Information or instruction

5. DESIGN OF SAFETY SIGNS

5.1. **Prohibition signs**

Background: white; symbol or wording: black.

The safety colour red must appear around the edge and in a transverse bar and must cover at least 35 % of the surface of the sign.

5.2. **Warning, mandatory, emergency and information signs**

Background: safety colour; symbol or wording: contrasting colour.

A yellow triangle must have a black edge. The safety colour must cover at least 50 % of the surface of the sign.

5.3. **Additional signs**

Background: white; wording: black;

or

background: safety colour; wording: contrasting colour.

5.4. **Symbols**

The design must be as simple as possible and details not essential to comprehension must be left out.

6. YELLOW/BLACK DANGER IDENTIFICATION

(Proportion of safety colour at least 50 %)

Identification of permanent risk locations such as:

— locations where there is a risk of collision, falling, stumbling or of falling loads,

— steps, holes in floors, etc.

BILAG II — ANLAGE II — ANNEX II — ANNEXE II — ALLEGATO II — BIJLAGE II

SÆRLIG SIKKERHEDSSKILTNING — BESONDERE SICHERHEITSKENNZEICHNUNG — SPECIAL SYSTEM OF SAFETY SIGNS — SIGNALISATION PARTICULIÈRE DE SÉCURITÉ — SEGNALETICA PARTICOLARE DI SICUREZZA — BIJZONDERE VEILIGHEIDSSIGNALERING

1. Forbudstavler — Verbotszeichen — Prohibition signs — Signaux d'interdiction — Segnali di divieto — Verbodssignalen

a)

Rygning forbudt
Rauchen verboten
No smoking
Défense de fumer
Vietato fumare
Verboden te roken

b)

Rygning og åben ild forbudt
Feuer, offenes Licht und Rauchen verboten
Smoking and naked flames forbidden
Flamme nue interdite et défense de fumer
Vietato fumare o usare fiamme libere
Vuur, open vlam en roken verboden

c)

Ingen adgang for fodgængere
Für Fußgänger verboten
Pedestrians forbidden
Interdit aux piétons
Vietato ai pedoni
Verboden voor voetgangers

d)

Sluk ikke med vand
Verbot, mit Wasser zu löschen
Do not extinguish with water
Défense d'éteindre avec de l'eau
Divieto di spegnere con acqua
Verboden met water te blussen

e)

Ikke drikkevand
Kein Trinkwasser
Not drinkable
Eau non potable
Acqua non potabile
Geen drinkwater

7. 9. 77 Official Journal of the European Communities No L 229/19

2. Advarselstavler — Warnzeichen — Warning signs — Signaux d'avertissement — Segnali di avvertimento — Waarschuwingssignalen

a)

Brandfarlige stoffer
Warnung vor feuergefährlichen Stoffen
Flammable matter
Matières inflammables
Materiale infiammabile
Ontvlambare stoffen

b)

Eksplosionsfarlige stoffer
Warnung vor explosionsgefährlichen Stoffen
Explosive matter
Matières explosives
Materiale esplosivo
Explosieve stoffen

c)

Giftige stoffer
Warnung vor giftigen Stoffen
Toxic matter
Matières toxiques
Sostanze velenose
Giftige stoffen

d)

Ætsende stoffer
Warnung vor ätzenden Stoffen
Corrosive matter
Matières corrosives
Sostanze corrosive
Bijtende stoffen

e)

Ioniserende stråling
Radioaktivitet/Røntgenstråling
Warnung vor radioaktiven Stoffen oder ionisierenden Strahlen
Radioactive matter
Matières radioactives
Radiazioni pericolose
Radioactieve stoffen

f)

Kran i arbejde
Warnung vor schwebender Last
Beware, overhead load
Charges suspendues
Attenzione ai carichi sospesi
Hangende lasten

g)

Pas på kørende transport
Warnung vor Flurförderzeugen
Beware, industrial trucks
Chariots de manutention
Carrelli di movimentazione
Transportvoertuigen

h)

Farlig elektrisk spænding
Warnung vor gefährlicher elektrischer Spannung
Danger: electricity
Danger électrique
Tensione elettrica pericolosa
Gevaar voor elektrische spanning

i)

Giv agt
Warnung vor einer Gefahrenstelle
General danger
Danger général
Pericolo generico
Gevaar

3. Påbudstavler — Gebotszeichen — Mandatory signs — Signaux d'obligation — Segnali di prescrizione — Gebodssignalen

a)

Øjenværn påbudt
Augenschutz tragen
Eye protection must be worn
Protection obligatoire de la vue
Protezione degli occhi
Oogbescherming verplicht

b)

Hovedværn påbudt
Schutzhelm tragen
Safety helmet must be worn
Protection obligatoire de la tête
Casco di protezione
Veiligheidshelm verplicht

c)

Høreværn påbudt
Gehörschutz tragen
Ear protection must be worn
Protection obligatoire de l'ouïe
Protezione dell'udito
Gehoorbescherming verplicht

d)

Åndedrætsværn påbudt
Atemschutz tragen
Respiratory equipment must be used
Protection obligatoire des voies respiratoires
Protezione vie respiratorie
Adembescherming verplicht

e)

Fodværn påbudt
Schutzschuhe tragen
Safety boots must be worn
Protection obligatoire des pieds
Calzature di sicurezza
Veiligheidsschoenen verplicht

f)

Beskyttelseshandsker påbudt
Schutzhandschuhe tragen
Safety gloves must be worn
Protection obligatoire des mains
Guanti di protezione
Veiligheidshandschoenen verplicht

4. Redningstavler — Rettungszeichen — Emergency signs — Signaux de sauvetage — Segnali di salvataggio — Reddingssignalen

a)

Førstehjælp
Hinweis auf „Erste Hilfe"
First aid post
Poste premiers secours
Pronto soccorso
Eerste hulp-post

b)

c)

eller/oder/or/ou/o/of

d)

Retningsangivelse til nødudgang
Fluchtweg (Richtungsangabe für Fluchtweg)
Emergency exit to the left
Issue de secours vers la gauche
Uscita d'emergenza a sinistra
Nooduitgang naar links

e)

Nødudgang
(anbringes over udgangen)
Fluchtweg
(über dem Fluchtausgang anzubringen)
Emergency exit
(to be placed above the exit)
Sortie de secours
(à placer au-dessus de la sortie)
Uscita d'emergenza
(da collocare sopra l'uscita)
Nooduitgang
(te plaatsen boven de uitgang)

19. 7. 79 Official Journal of the European Communities No L 183/11

COMMISSION DIRECTIVE

of 21 June 1979

amending the Annexes to Council Directive 77/576/EEC on the approximation of the laws, regulations and administrative provisions of the Member States relating to the provision of safety signs at places of work

(79/640/EEC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community,

Having regard to Council Directive 77/576/EEC of 25 July 1977 on the approximation of the laws, regulations and administrative provisions of the Member States relating to the provisions of safety signs at places of work (1), and in particular Articles 4, 5 and 6 thereof,

Whereas the provisions in the Annexes to the abovementioned Directive relating to a uniform system of safety signs at places of work need to be regularly adapted to take account of technical progress and the future development of international methods of signposting;

Whereas Annex I contains no regulations concerning the relationship between dimensions of safety signs and distance of observation and no precise definition of the colorimetric and photometric properties of the materials used for such signs; whereas, when approving the Directive, the Council asked that these omissions be promptly rectified; whereas the addition which has accordingly been made to Annex I is in line with the current international standards in this field;

Whereas it seems necessary to include in Annex II a new sign warning of the presence of laser beams; whereas here also the sign on which there is unanimous international agreement can serve as a model;

Whereas the provisions of this Directive are in accordance with the opinion of the Committee for the Adjustment to Technical Progress and to Future Development in International Methods of Directive 77/576/EEC on the Approximation of the Laws, Regulations and Administrative Provisions of the Member States Relating to the Provision of Safety Signs at Places of Work,

HAS ADOPTED THIS DIRECTIVE:

Article 1

The Annexes to Council Directive 77/576/EEC are amended as provided in the following Articles.

Article 2

In Annex I:

1. the following paragraph shall be inserted after paragraph 5.4 of section 5, 'Design of safety signs':

   '5.5. **Dimensions of safety signs**

   The dimensions of safety signs may be determined in accordance with the formula:

   $$A \geq \frac{l^2}{2\,000}$$

   where A is the area of the sign in m^2 and l the greatest distance in m from which the sign must be understood.

   Note: This formula is applicable for distances up to about 50 m.'

2. after section 5, 'Design of safety signs', the following new section 6 shall be inserted:

   '6. **COLORIMETRIC AND PHOTOMETRIC PROPERTIES OF MATERIALS**

   As regards the colour and photometric properties of working substances the ISO standards and the standards of the International Lighting Commission (CIE — Commission internationale de l'éclairage) are recommended.'

3. The existing section 6 'Yellow/black danger identification' shall become section 7.

(1) OJ No L 229, 7. 9. 1977, p. 12.

Article 3

In Annex II, No 2, 'Warning signs' the following sign is added:

'j)

Laserstråler
Warnung vor Laserstrahl
Laser beam
Rayonnements laser
Raggio laser
Lasertraat'

Article 4

Member States shall bring into force the laws, regulations or administrative provisions necessary to comply with the provisions of this Directive by 1 January 1981 at the latest. They shall forthwith inform the Commission thereof.

Article 5

This Directive is addressed to the Member States.

Done at Brussels, 21 June 1979.

For the Commission

Henk VREDELING

Vice-President

No L 327/8 Official Journal of the European Communities 3. 12. 80

II

(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DIRECTIVE

of 27 November 1980

on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work

(80/1107/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission (1), drafted following consultation with the Advisory Committee on Safety, Hygiene and Health Protection at work,

Having regard to the opinion of the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas the Council resolution of 29 June 1978 on an action programme of the European Communities on safety and health at work (4), provides for the harmonization of provisions and measures regarding the protection of workers with respect to chemical, physical and biological agents; whereas efforts must therefore be made towards approximation, while the improvement is being maintained, of the laws, regulations and administrative provisions of the Member States in accordance with Article 117 of the Treaty;

Whereas certain differences are revealed by an examination of the measures taken by Member States to protect workers from the risks related to exposure to chemical, physical and biological agents at work; whereas, therefore, in the interests of balanced development, these measures, which directly affect the functioning of the common market, should be approximated and improved; whereas this approximation and improvement should be based on common principles;

Whereas the said protection should as far as possible be ensured by measures to prevent exposure or keep it at as low a level as is reasonably practicable;

Whereas to this end it is appropriate that the Member States should, when they adopt provisions in this field, comply with a set of requirements, including in particular the laying down of limit values; whereas an initial list of agents may be adopted in this Directive for the application of further more specific requirements; whereas the Member States will determine whether and to what extent each of these requirements is applicable to the agent concerned;

Whereas provision should be made, within the time limits set by this Directive, for the implementation, in respect of a limited number of agents, of provisions to ensure, for the workers concerned, appropriate surveillance of their state of health during exposure and the provision of appropriate information;

Whereas the Council will lay down the limit values and other specific requirements for certain agents in individual Directives;

Whereas certain technical aspects concerning the specific requirements established in the individual directives can be reviewed in the light of experience and progress made in the technical and scientific fields;

(1) OJ No C 89, 5. 4. 1979, p. 6.
(2) OJ No C 59, 10. 3. 1980, p. 73.
(3) OJ No C 297, 28. 11. 1979, p. 5.
(4) OJ No C 165, 11. 7. 1978, p. 1.

Whereas representatives of employers and workers have a role to play in the protection of workers;

Whereas, since the Hellenic Republic is to become a member of the European Economic Community on the 1 January 1981 in accordance with the 1979 Act of Accession, it should be granted a longer period in which to implement this Directive so as to enable it to set up the necessary legislative, social and technical structures, in particular those concerning consultation of both sides of industry, the setting up of a system for monitoring the health of workers as well as the supervision of such implementation,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. The aim of this Directive is the protection of workers against risks to their health and safety, including the prevention of such risks, arising or likely to arise at work from exposure to chemical, physical and biological agents considered harmful.

2. This Directive shall not apply to:

— workers exposed to radiation covered by the Treaty establishing the European Atomic Energy Community,

— sea transport,

— air transport.

Article 2

For the purposes of this Directive:

(a) 'agent' means any chemical, physical or biological agent present at work and likely to be harmful to health;

(b) 'worker' means any employed person exposed or likely to be exposed to such agents at work;

(c) 'limit value' means the exposure limit or biological indicator limit in the appropriate medium, depending on the agent.

Article 3

1. In order that the exposure of workers to agents be avoided or kept at as low a level as is reasonably practicable, Member States shall, when they adopt provisions for the protection of workers, concerning an agent, take:

— the measures set out in Article 4,

— the additional measures set out in Article 5, where the agent appears in the initial list in Annex I.

2. For the purposes of paragraph 1, the Member States shall determine the extent, if any, to which each of the measures provided for in Articles 4 and 5 is to apply, taking into account the nature of the agent, the extent and duration of the exposure, the gravity of the risk and the available knowledge concerning it, together with the degree of urgency of the measures to be adopted.

3. Member States shall adopt the measures necessary to ensure:

— in the case of the agents listed in Annex II, Part A, appropriate surveillance of the state of health of workers during the period of exposure,

— in the case of the agents listed in Annex II, Part B, access for workers and/or their representatives at the place of work to appropriate information on the dangers which these agents present.

4. The adoption of the measures referred to in paragraph 3 by the Member States shall not oblige them to apply paragraphs 1 and 2.

Article 4

The measures referred to in the first indent of Article 3 (1) shall be:

1. limitation of the use of the agent at the place of work;

2. limitation of the number of workers exposed or likely to be exposed;

3. prevention by engineering control;

4. establishment of limit values and of sampling procedures, measuring procedures and procedures for evaluating results;

5. protection measures involving the application of suitable working procedures and methods;

6. collective protection measures;

7. individual protection measures, where exposure cannot reasonably be avoided by other means;

8. hygiene measures;

9. information for workers on the potential risks connected with their exposure, on the technical preventive measures to be observed by workers, and on the precautions taken by the employer and to be taken by workers;

10. use of warning and safety signs;

11. surveillance of the health of workers;

12. keeping updated records of exposure levels, lists of workers exposed and medical records;

13. emergency measures for abnormal exposures;

14. if necessary, general or limited ban on the agent, in cases where use of the other means available does not make it possible to ensure adequate protection.

Article 5

The additional measures referred to in the second indent of Article 3 (1) shall be:

1. providing medical surveillance of workers prior to exposure and thereafter at regular intervals. In special cases, it shall be ensured that a suitable form of health surveillance is available to workers who have been exposed to the agent, after exposure has ceased;

2. access by workers and/or their representatives at the place of work to the results of exposure measurements and to the anonymous collective results of the biological tests indicating exposure when such tests are provided for;

3. access by each worker concerned to the results of his own biological tests indicating exposure;

4. informing workers and/or their representatives at the place of work where the limit values referred to in Article 4 are exceeded, of the causes thereof and of the measures taken or to be taken in order to rectify the situation;

5. access by workers and/or their representatives at the place of work to appropriate information to improve their knowledge of the dangers to which they are exposed.

Article 6

Member States shall see to it that:

— workers' and employers' organizations are consulted before the provisions for the implementation of the measures referred to in Article 3 are adopted and that workers' representatives in the undertakings or establishments, where they exist, can check that such provisions are applied or can be involved in their application,

— any worker temporarily suspended on medical grounds in accordance with national laws or practices from exposure to the action of an agent is, where possible, provided with another job,

— the measures adopted in implementation of this Directive are consistent with the need to protect public health and the environment.

Article 7

This Directive and the individual Directives referred to in Article 8 shall not prejudice the right of Member States to apply or introduce laws, regulations or administrative provisions ensuring greater protection for workers.

Article 8

1. In the individual Directives which it adopts on the agents listed in Annex I, the Council shall, acting on a proposal from the Commission, lay down the limit value or values and the other specific requirements applicable.

2. The titles of the individual Directives shall include serial numbers.

3. Adaptation to technical progress in accordance with the procedure in Article 10 shall be restricted to the technical aspects listed in Annex III under the conditions laid down in the individual Directives.

Article 9

1. With a view to the adaptation to technical progress referred to in Article 8 (3) a committee is hereby established consisting of representatives of the Member States and presided over by a representative of the Commission.

2. The Committee shall draw up its own rules of procedure.

Article 10

1. Where the procedure laid down in this Article is invoked, matters shall be referred to the Committee by the chairman, either on his own initiative or at the request of the representative of a Member State.

2. The representative of the Commission shall submit to the Committee a draft of the measures to be taken. The Committee shall deliver its opinion on this draft within a time limit which the chairman may set according to the urgency of the matter. Decisions shall be taken by a majority of 41 votes, the votes of Member States being weighted as provided for in Article 148 (2) of the Treaty. The chairman shall not vote.

3. (a) The Commission shall take the proposed measures where they are in accordance with the opinion of the Committee.

(b) Where the proposed measures are not in accordance with the opinion of the Committee, or if no opinion is delivered the Commission shall without delay propose to the Council the measures to be taken. The Council shall act by a qualified majority.

(c) If the Council has not acted within three months of receiving the proposal, the proposed measures shall be adopted by the Commission.

Article 11

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive within a period of three years of its notification and shall forthwith inform the Commission thereof.

However, in the case of Article 3 (3), first indent, this period shall be four years.

In derogation from the above provisions, the time limits laid down in the first and second subparagraphs shall be four and five years respectively in the case of the Hellenic Republic.

2. Member States shall communicate to the Commission the provisions of the national law which they adopt in the field governed by this Directive.

Article 12

This Directive is addressed to the Member States.

Done at Brussels, 27 November 1980.

For the Council

The President

J. SANTER

ANNEX I

List of agents referred to in Article 3 (1), second indent, and Article 8 (1)

Acrylonitrile
Asbestos
Arsenic and compounds
Benzene
Cadmium and compounds
Mercury and compounds
Nickel and compounds
Lead and compounds
Chlorinated hydrocarbons: — chloroform
— paradichlorobenzene
— carbon tetrachloride

ANNEX II

A. List of agents referred to in Article 3 (3), first indent

1. Asbestos
2. Lead and compounds

B. List of agents referred to in Article 3 (3), second indent

1. Asbestos
2. Arsenic and compounds
3. Cadmium and compounds
4. Mercury and compounds
5. Lead and compounds

ANNEX III

Technical aspects referred to in Article 8 (3)

1. Sampling procedures and measuring methods (including quality control) with respect to the limit values in so far as such procedures and methods have no effect on the quantitative significance of those limit values.
2. Practical recommendations on medical surveillance before and during exposure and after such exposure has ceased and keeping of records on the results of such medical surveillance.
3. Practical procedures regarding the establishment and keeping of records concerning ambient measurement results and lists of exposed workers.
4. Practical recommendations for alarm systems to be installed at workplaces where abnormal exposures are likely to occur.
5. Practical recommendations for emergency measures to be taken in the event of abnormal emissions.
6. Collective and individual protection measures for certain operations (e.g. servicing and repairs) during which it cannot be guaranteed that concentrations or intensities of the agents will be kept below the limit values.
7. Procedures regarding general hygiene requirements, and means of ensuring personal hygiene.
8. Signs to identify areas where significant exposure is likely to occur and to indicate the precautions which have to be taken.

COUNCIL DIRECTIVE

of 16 December 1988

amending Directive 80/1107/EEC on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work

(88/642/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the European Economic Community, and in particular Article 118a thereof,

Having regard to the proposal from the Commission (1),

In cooperation with the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas, for improved protection of workers with respect to chemical, physical and biological agents at work, it is necessary to strengthen the provisions contained in Council Directive 80/1107/EEC (4), as last amended by the Act of Accession of Spain and Portugal;

Whereas the Council resolution of 27 February 1984 on a second programme of action of the European Communities on safety and health at work (5) provides for the harmonization of provisions and measures regarding the protection of workers with respect to certain chemical, physical and biological agents; whereas, in the interests of balanced development, it is therefore necessary to harmonize and improve those measures, while adapting them to take account of technical progress; whereas this harmonization and improvement should be based on common principles;

Whereas the Council resolution of 21 December 1987 on safety, hygiene and health at work (6) stresses the importance of improving the safety and health of workers at the place of work;

Whereas, in accordance with Decision 74/325/EEC (7), as amended by the Act of Accession of Spain and Portugal, the Advisory Committee on Safety, Hygiene and Health at Work is to be consulted by the Commission with a view to drawing up proposals in this field;

Whereas, for certain agents, the Council will lay down, in individual Directives, the limit values of a binding nature for occupational exposure and, where appropriate, other specific requirements;

Whereas provision should be made at Community level for drawing up for the other agents indicative limit values which the Member States would, *inter alia*, take into account when establishing national limit values;

Whereas representatives of employers and workers have a role to play in the protection of workers;

Whereas the provisions of this Directive are minimum requirements and in no way prevent Member States from maintaining or taking other measures so as to protect workers furhter.

HAS ADOPTED THIS DIRECTIVE:

Article 1

Directive 80/1107/EEC is hereby amended as follows:

1. The following subparagraph is added to Article 3 (1):

   'The Council, in accordance with the procedure laid down in Article 118a of the Treaty, may amend Annex I with a view, *inter alia*, to inserting in it agents in respect of which a binding limit value or binding limit values and/or other specific requirements appear necessary.'

2. Article 4 is amended as follows:

   (a) point 4 is replaced by the following:

   '4. (a) in the case of any activity likely to involve a risk of exposure of workers, determination of the nature and degree of the workers' exposure so that any risk to their safety or health can be assessed and the measures to be taken can be defined;

   (b) establishment of limit values and of sampling procedures, measuring procedures and procedures for evaluating results; in the case of chemical agents, the establishment of sampling procedures, measuring procedures and procedures for evaluating results, in accordance with the reference method described in Annex II a or a method yielding equivalent results;

   (c) when a limit value is exceeded, identification without delay of the reasons for the limit being exceeded and implementation as soon as possible of appropriate measures to remedy the situation.';

(1) OJ No C 164, 2. 7. 1986, p. 4.
(2) OJ No C 167, 27. 6. 1988, p. 84 and OJ No C 290, 14. 11. 1988.
(3) OJ No C 319, 30. 11. 1987, p. 41.
(4) OJ No L 327, 3. 12. 1980, p. 8.
(5) OJ No C 67, 8. 3. 1984, p. 2.
(6) OJ No C 28, 3. 2. 1988, p. 1.
(7) OJ No L 185, 9. 7. 1974, p. 15.

(b) point 9 is replaced by the following :

'9. appropriate measures shall be taken by the employer to ensure that workers and/or their representatives in undertakings or establishments receive full information on, and instruction in :

(a) the potential risks connected with their exposure, the technical preventive measures to be observed by workers and the precautions taken by the employer and to be taken by workers ;

(b) the risk assessment methods used, the existence of a limit value as referred to in point 4 (b) and the need to carry out measurements, and the action to be taken, as laid down in point 4 (c), in the event of a limit value being exceeded.'

3. Article 8 (1) is replaced by the following :

'1. The Council shall, in accordance with the procedure laid down in Article 118a of the Treaty, fix in the individual directives that it adopts with regard to the agents listed in Annex I a binding limit value or binding limit values and/or other specific requirements.'

4. The following paragraph is added to Article 8 :

'4. Without prejudice to paragraph 1, for agents other than those listed in Annex I, indicative limit values shall be drawn up in accordance with the procedure laid down in Article 10.

The Member States shall take account, *inter alia*, of those indicative limit values when establishing the limit values referred to in Article 4 (4) (b).

Indicative limit values shall reflect expert evaluations based on scientific data.'

5. Article 9 (1) is replaced by the following :

'1. With a view to the adaptation to technical progress referred to in Article 8 (3) and to the establishment of indicative limit values as referred to in Article 8 (4), a committee is hereby established consisting of representatives of the Member States and chaired by a representative of the Commission.'

6. Annex II a, which appears in the Annex to this Directive, is inserted.

Article 2

1. This Directive shall be without prejudice to the right of Member States to apply or adopt other laws, regulations and administrative provisions laying down more stringent standards.

2. Member States shall adopt the laws, regulations and administrative provisions necessary to comply with this Directive not later than two years after its notification (1). They shall forthwith inform the Commission thereof.

3. Member States shall communicate to the Commission the provisions of national law which they adopt in the field covered by this Directive.

Article 3

This Directive is addressed to the Member States.

Done at Brussels, 16 December 1988.

For the Council

The President

G. GENNIMATAS

(1) This Directive was notified to the Member States on 21 December 1988.

ANNEX

ANNEX II a

REFERENCE METHOD REFERRED TO IN ARTICLE 4 (4) (b)

A. DEFINITIONS

I. Suspended matter

1. *Physico-chemical definitions*

(a) "Dust" means a disperse distribution of solids in air, brought about by mechanical processes or stirred up.

(b) "Fume" means a disperse distribution of solids in air, brought about by thermal and/or chemical processes.

(c) "Mist" means a disperse distribution of liquids in air, brought about by condensation or dispersion.

2. *Occupational medicine and toxicological definitions of particle populations*

(a) Dusts, like fumes and mists, fall into the category of suspended matter.

In assessing the health risks of suspended matter, account must be taken of particle size as well as specific dangerous effect, concentration and exposure time.

(b) Only part of the total suspended matter within a worker's breathing area is inhaled. This is termed the inspirable fraction.

Important factors here are the inspiration rate around the nose and mouth and flow conditions about the head.

(c) Depending on its size, the inspirable fraction may be deposited in various areas of the respiratory tract.

Deposition has, *inter alia*, a considerable effect on the point and nature of noxious effect.

The fraction of the inspirable fraction reaching the alveoli is called the respirable fraction.

The respirable fraction is of particular interest in occupational medicine.

II. Limit value

(a) The limit value is stated as the eight-hour time-weighted average concentration of exposure of a substance in gaseous, vaporous or suspended form in the air at the workplace.

Exposure means the presence of a chemical agent in the air within the breathing area of a worker.

It is described in terms of concentration over a reference period.

This section does not concern limit values for biological indicators.

(b) In addition it may be necessary to limit, for certain substances, permissible upward excursions from the average eight-hour time-weighted exposure to substances for shorter terms.

Monitoring then relates to the average concentration of the substance for the shorter term in question.

(c) The limit value for gases and vapours is stated in terms independent of temperature and air pressure variables in ml/m³ (ppm) and in terms dependent on those variables in mg/m³ for a temperature of 20 °C and a pressure of 101,3 kPa.

The limit value for suspended matter is given in mg/m³ for operating conditions at the workplace.

B. ASSESSMENT OF EXPOSURE AND MEASURING STRATEGY

1. Basics

(a) If the presence of one or more agents in gaseous, vaporous or suspended form in the air at the workplace cannot for certain be ruled out, an assessment must be made to see whether the limit values are complied with.

(b) In this assessment, all points which might be relevant to exposure must be carefully looked into, for example :

— agents used or produced,

— operations, technical installations and processes,

— temporal and spatial distribution of concentrations of agents.

(c) A limit value is complied with if the assessment shows that exposure does not exceed it.

If the information obtained is insufficient to establish reliably whether the limit values are complied with, it must be supplemented by workplace measurements.

(d) If the assessment shows that a limit value is not complied with :

— the reasons for the limit being exceeded must be identified and appropriate measures to remedy the situation must be implemented as soon as possible,

— the assessment must be repeated.

(e) If the assessment shows that the limit values are complied with, subsequent measurements at appropriate intervals must, if necessary, be taken to ensure that the situation continues to prevail.

The nearer the concentration recorded comes to the limit value, the more frequently measurements must be taken.

(f) If the assessment shows that, on a long-term basis, owing to the arrangement of the work process, the limit values are complied with and there is no substantial change in conditions at the workplace likely to lead to a change of workers' exposure, the frequency of checks on compliance through measurements may be curtailed.

In such cases, however, it must regularly be checked whether the assessment leading to that conclusion is still applicable.

(g) If workers are exposed simultaneously or consecutively to more than one agent, this fact must be taken into consideration in evaluating the health risk to which they are exposed.

2. **Requirements for persons who carry out measurements**

Those carrying out measurements must possess the necessary expertise and facilities.

3. **Requirements for measuring procedures**

(a) The measuring procedure must give results representative of worker exposure.

(b) To ascertain the exposure of the worker at the workplace, where possible personal sampling devices should be used, attached to workers' bodies.

Where a group of workers is performing identical or similar tasks at the same place and has similar exposure, sampling such as to be representative of the group may be carried out within that group.

Fixed-point measuring systems may be used if the results make it possible to assess exposure of the worker at the workplace.

Samples should as far as possible be taken at breathing height and in the immediate vicinity of workers.

If in doubt, the point of greatest risk is to be taken as the measuring point.

(c) The measuring procedure used must be appropriate to the agent to be measured, its limit value and the workplace atmosphere.

The result must show the concentration of the agent exactly and in the same terms as the limit value.

(d) If the measuring procedure is not specific to the agent to be measured, the full value recorded must be counted as applying to the agent to be measured.

(e) The limits of detection, sensitivity and precision of the measuring procedure must be appropriate to the limit value.

(f) The accuracy of the measuring procedure should be ensured.

(g) The measuring procedure must have been tested under practical conditions of use.

(h) If the European Committee for Standardization (CEN) publishes general requirements for the performance of measuring procedures and devices for workplace measurements together with provisions on testing, they should be referred to when selecting appropriate measuring procedures.

4. **Measurement specifications for detecting representative particle populations in the air at the workplace**

(a) Suspended matter concentration should be measured in relation to effect; therefore, when sampling, either the inspirable fraction or the respirable fraction should be measured.

This requires particle separation according to aerodynamic diameter equivalent to the deposition occurring in breathing.

Since appropriate equipment for workplace sampling is not yet available, practical specifications for uniform measurement are needed.

(b) The fraction of suspended matter which can be breathed in by a worker through the mouth and/or the nose is deemed to be inspirable.

By way of example, in measurement practice, devices with an inspiration rate of 1,25 m/s +/– 10 % or devices in conformity with ISO/TR 7708 1983 (E) are used for sampling.

In the first of these two cases, cited by way of example:

— with sampling devices attached to the person, the inlet should be directed parallel to the worker's face throughout sampling,

— with fixed-point sampling, the position and shape of the inlet should enable samples representative of workers' exposure covering various directions of flow to be taken,

— the position of the sampling device inlet is of little significance where there are very low flow rates for the surrounding air,

— with surrounding flow rates of 1 m/s and above, omnidirectional sampling in the horizontal plane is recommended.

(c) The respirable fraction of suspended matter comprises a population passed through a separation system equivalent in its effect to the theoretical separation function of a sedimentation separator giving 50 % separation of particles with an aerodynamic diameter of 5 µm (Johannesburg Convention, 1979).

(d) If the CEN establishes specifications for the collection of suspended material at the workplace, they should be applied, by way of preference.

Other methods may be used provided that they yield the same conclusion or a stricter conclusion in relation to compliance with the limit values.'

No L 197/12 Official Journal of the European Communities 22. 7. 78

COUNCIL DIRECTIVE

of 29 June 1978

on the approximation of the laws, regulations and administrative provisions of the Member States on the protection of the health of workers exposed to vinyl chloride monomer

(78/610/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament [1],

Having regard to the opinion of the Economic and Social Committee [2],

Whereas, in the past it was recognized that vinyl chloride monomer was capable of giving rise only to the generally reversible disease known as 'occupational acro-osteolysis'; whereas more recent evidence from epidemiological studies and animal experimentation indicates that prolonged and/or repeated exposure to high concentrations of vinyl chloride monomer in the atmosphere may give rise to a 'vinyl chloride monomer' syndrome encompassing, in addition to occupational acro-osteolysis, the skin disease scleroderma and liver disorders;

Whereas vinyl chloride monomer should also be regarded as a carcinogen which may cause angiosarcoma, a rare malignant tumour which can also occur without any known cause;

Whereas, although working conditions are considerably better than those under which the above syndrome formerly occurred, a comparison of protective measures taken by each Member State reveals certain differences; whereas, therefore, in the interests of balanced economic and social development, these national laws, which directly affect the functioning of the common market, should be harmonized and improved;

Whereas the first step should be to take technical preventive and protective measures based on the latest scientific knowledge so that the values of concentrations of vinyl chloride monomer in the atmosphere in the works can be reduced to an extremely low figure;

Whereas medical surveillance of workers in the vinyl chloride monomer and vinyl chloride polymer industry should take account of the latest medical knowledge, in order that the health of workers in this important sector of the chemical industry may be protected;

Whereas the urgent need to harmonize laws in this field is recognized by both sides of industry which took part in the discussion on this specific problem; whereas efforts must therefore be made towards the approximation, while the improvement is being maintained, of the laws, regulations and administrative provisions of the Member States as envisaged in Article 117 of the Treaty;

Whereas the provisions of this Directive constitute minimal requirements which may be re-examined in the light of the experience gained and of progress in medical techniques and knowledge in this field, the final objective being to achieve optimum protection of workers,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. The object of this Directive is the protection of workers:

— employed in works in which vinyl chloride monomer is produced, reclaimed, stored, discharged into containers, transported or used in any way whatsoever, or in which vinyl chloride monomer is converted into vinyl chloride polymers, and

— exposed to the effects of vinyl chloride monomer in a working area.

2. This protection shall comprise:

— technical preventive measures,

— the establishment of limit values for the atmospheric concentration of vinyl chloride monomer in the working area,

[1] OJ No C 163, 11. 7. 1977, p. 11.
[2] OJ No C 287, 30. 11. 1977, p. 11.

— the definition of measuring methods and the fixing of provisions for monitoring the atmospheric concentration of vinyl chloride monomer in the working area,

— if necessary, personal protection measures,

— adequate information for workers on the risks to which they are exposed and the precautions to be taken,

— the keeping of a register of workers with particulars of the type and duration of their work and the exposure to which they have been subjected,

— medical surveillance provisions.

Article 2

For the purpose of this Directive:

(a) 'working area' means a section of a works with defined boundaries which may comprise one or more workplaces. It is characterized by the fact that the individual worker spends irregular periods of time there at various workplaces in the course of his duty or duties, that the length of time spent at these individual workplaces cannot be more closely defined and that further subdivision of the working area into smaller units is not possible;

(b) 'technical long-term limit value' means the value which shall not be exceeded by the mean concentration, integrated with respect to time, of vinyl chloride monomer in the atmosphere of a working area, the reference period being the year, with account being taken only of the concentrations measured during the periods in which the plant is in operation and of the duration of such periods.

For guidance and for practical reasons, Annex I contains a table of the corresponding limit values obtained from statistics with a view to being able to detect, over shorter periods, the risk of the technical long-term limit value's being exceeded.

The concentration values recorded during the alarm periods referred to in Article 6 shall not be taken into account in the calculation of the mean concentration.

(c) 'competent doctor' means the doctor responsible for the medical surveillance of the workers referred to in Article 1 (1).

Article 3

1. The fundamental aim of the technical measures adopted to meet the requirements of this Directive shall be to reduce to the lowest possible levels the concentrations of vinyl chloride monomer to which workers are exposed. All working areas in works referred to in Article 1 (1) shall therefore be monitored for the atmospheric concentration of vinyl chloride monomer.

2. For the works referred to in Article 1 (1), the technical long-term limit value shall be three parts per million.

An adjustment period not exceeding one year in which to comply with the technical long-term limit value of three parts per million shall be provided for in the case of existing plant at such works.

Article 4

1. The concentration of vinyl chloride monomer in the working area may be monitored by continuous or discontinuous methods. The permanent sequential method shall be regarded as being a continuous method.

However, the use of a continuous or permanent sequential method shall be obligatory in enclosed vinyl chloride monomer polymerization plant.

2. In the case of continuous or permanent sequential measurements over a period of one year, the technical long-term limit value shall be considered as having been complied with if the arithmetic mean concentration is found not to exceed this value.

In the case of discontinuous measurements, the number of values measured shall be such that it is possible to predict with a confidence coefficient of at least 95 % — accepting the relevant assumptions made in Annex I — that the actual mean annual concentration will not exceed the technical long-term limit value.

3. Any measurement system which records accurately for the purposes of analysis at least one third of the technical long-term limit value concentration shall be regarded as suitable.

4. If non-selective systems of measurement are used for measuring vinyl chloride monomer, the measurement recorded shall be taken as the total vinyl chloride monomer concentration value.

5. Measuring instruments shall be calibrated at regular intervals. Calibration shall be carried out by suitable methods based on the latest state of the art.

Article 5

1. Measurements of the atmospheric concentration of vinyl chloride monomer in a working area for the purpose of verifying compliance with the technical long-term limit value shall be carried out using measuring points chosen so that the results obtained are as representative as possible of the individual vinyl chloride monomer exposure level of workers in that area.

2. Depending on the size of the working area, there may be one or more measuring points. If there is more than one measuring point, the mean value for the various measuring points shall be considered in principle as the representative value for the whole working area.

If the results obtained are not representative of the vinyl chloride monomer concentration in the working area, the measuring point for checking compliance with the technical long-term limit value shall be that point in the working area where the worker is exposed to the highest mean concentration.

3. Measurements carried out as described in this Article may be combined with measurements based on individual sampling, i.e. using devices worn by exposed persons for the purpose of verifying the suitability of the measuring points chosen and of obtaining any other information relevant to technical prevention and medical surveillance.

Article 6

1. In order that abnormal increases in vinyl chloride monomer concentration levels may be detected, a monitoring system capable of detecting such increases shall be provided in places where they may occur.

In cases involving such an increase in the concentration level, technical measures shall be taken without delay to determine and to remedy the causes thereof.

2. The value corresponding to the alarm threshold shall not exceed, at a measuring point, 15 parts per million for mean values measured over a period of one hour, 20 parts per million for mean values measured over 20 minutes or 30 parts per million for mean values measured over two minutes. If the alarm threshold is exceeded, personal protection measures shall be taken without delay.

Article 7

Appropriate personal protection measures shall be provided for certain operations (e.g. cleaning of autoclaves, servicing and repairs) during which it cannot be guaranteed that concentrations will be kept below the limit values through operational or ventilation measures.

Article 8

Employers shall inform the workers referred to in Article 1 (1), both upon recruitment or prior to their taking up their activities and at regular intervals thereafter, of the health hazards associated with vinyl chloride monomer and of the precautions to be taken when this substance is being handled.

Article 9

1. Employers shall keep a register of the workers referred to in Article 1 (1), with particulars of the type and duration of work and the exposure to which they have been subjected. This register shall be given to the competent doctor.

2. A worker shall, at his request, be given the opportunity to note the particulars in the register concerning him.

3. Employers shall make available to workers' representatives at the undertaking, at their request, the results of the measurements taken at the places of work.

Article 10

1. Employers shall be required to ensure that the workers referred to in Article 1 (1) are examined by the competent doctor, both upon recruitment or prior to their taking up their activities and subsequently.

2. Without prejudice to national provisions, the competent doctor shall determine in each individual case the frequency and type of the examination provided for in paragraph 1. The necessary guidelines are given in Annex II.

3. Member States shall take the necessary steps to ensure that the registers referred to in Article 9 and the medical records are kept for at least 30 years from the date on which the activity of the workers referred to in Article 1 (1) was taken up.

For workers already engaged in such activity on the date of entry into force of the provisions adopted pursuant to this Directive, the 30-year period shall commence on that date.

Member States shall determine how the registers and the medical records are to be used for study and research purposes.

Article 11

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive within 18 months of its notification and shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the texts of the provisions of national law which they adopt in the field covered by this Directive.

Article 12

This Directive is addressed to the Member States.

Done at Luxembourg, 29 June 1978.

For the Council

The President

S. AUKEN

ANNEX I

STATISTICAL BASIS FOR THE TECHNICAL LONG-TERM LIMIT VALUE

(Article 2 (b))

1. Owing to differences in definition, the recommended values for the permissible atmospheric concentration substances injurious to health at the workplace currently vary from country to country.

   This Directive is concerned with a new, statistically-defined reference value — the technical long-term limit value — which should be regarded as a mean annual value.

2. The limit values for shorter reference periods are based on data obtained by extensive measurement of vinyl chloride monomer concentrations in the vinyl chloride polymer industry. These measurements accord with the data resulting from observations both on other substances injurious to health and for other sectors of industry.

   The data can be summarized as follows:

   (a) the distributions of concentrations of substances injurious to health can be represented log normally;

   (b) the logarithmic variance σ^2 ($_{\tau}$, T) is a function of the reference period τ from which the mean of the individual values is calculated and of the assessment period T over which all individual values extend.

   This relationship can, with a degree of approximation, be expressed by the following equation:

$$\sigma^2 (\tau, T) = 2{\cdot}5 \cdot 10^{-2} \log (T/\tau).$$

3. Assuming these data, a mean ratio of the limit values for shorter reference periods to the technical long-term limit value can be established:

Reference period	Limit value in parts per million (rounded off)	Ratio of short-term value to technical long-term limit value
One year	3	1
One month	5	1·7
One week	6	1·95
Eight hours	7	2·3
One hour	8	2·55

4. The above limit values for reference periods shorter than one year must have a maximum 5 % probability of being exceeded when the annual arithmetic mean of atmospheric vinyl chloride monomer concentrations is three parts per million.

ANNEX II

GUIDELINES FOR THE MEDICAL SURVEILLANCE OF WORKERS

(Article 10 (2))

1. Current knowledge indicates that over-exposure to vinyl chloride monomer can give rise to the following disorders and diseases:

   — sclerodermatous skin disorders,

   — circulatory disorders in the hands and feet (similar to Raynaud's syndrome),

   — acro-osteolysis (affecting certain bone structures, particularly the phalanges in the hand),

   — liver and spleen fibroses (similar to perilobular fibrosis, known as Banti's syndrome),

   — lung function disorders,

   — thrombocytopenia,

   — hepatic angiosarcoma.

2. Medical surveillance of the workers should take account of all symptoms and syndromes, with particular emphasis on the area of greatest risk. As far as is known at present, no symptoms occurring separately or in combination have been identified as precursors or transitional stages of hepatic sarcoma. As no specific methods of preventive analysis are known for this disease, medical action shall include at least the following measures as minimum requirements:

   (a) records of the workers's medical and occupational history,

   (b) clinical examination of the extremities, the skin and the abdomen,

   (c) X-ray of the hand bones (every two years).

   Further tests, particularly laboratory tests, are desirable. These should be decided by the competent doctor in the light of the most recent developments in industrial medicine.

   The following laboratory tests are suggested at present for prognostic epidemiological surveys:

   — urinalysis (glucose, proteins, salts, bile pigments, urobilinogen),

   — erythrocyte sedimentation rate,

   — blood platelet count,

   — determination of total bilirubin level,

   — determination of transaminase levels (SGOT, SGPT),

   — determination of gamma glutamyl transferase (GT) level,

   — thymol turbidity test,

   — alkaline phospatase level,

   — determination of cryoglobulin.

3. As in the case of all biological examinations, the results of the tests shall be interpreted in the light of the laboratory techniques used and their normal values. Generally speaking, the significance of a functional disorder is assessed after joint consideration of the results obtained from various examinations and by developments in the anomalies observed. As a general rule, abnormal results shall be investigated and, if necessary, additional specialist examinations carried out.

4. The competent doctor shall decide in each case whether a worker is suitable for a working area.

   The competent doctor shall also decide what contra-indications apply. The most important of these are:

   — typical vascular and neurovascular lesions,

   — lung function disorders,

   — clinical or biological hepatic insufficiency,

— diabetes,

— chronic renal insufficiency,

— thrombocytopenia and hemorrhagic disorders,

— certain chronic skin diseases such as scleroderma,

— abuse of alcohol and/or addiction to drugs.

This list, which is intended merely for guidance, has been drawn up using pathological data obtained from previous retrospective studies.

No L 247/12 Official Journal of the European Communities 23. 8. 82

COUNCIL DIRECTIVE

of 28 July 1982

on the protection of workers from the risks related to exposure to metallic lead and its ionic compounds at work (first individual Directive within the meaning of Article 8 of Directive 80/1107/EEC)

(82/605/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission (1),

Having regard to the opinion of the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas the Council resolution of 29 June 1978 on an action programme of the European Communities on safety and health at work (4), provides for the establishment of specific harmonized procedures regarding the protection of workers with respect to lead;

Whereas Council Directive 80/1107/EEC of 27 November 1980 on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work (5), lays down certain provisions which have to be taken into account for this protection; whereas that Directive provides for the laying down in individual Directives of limit values and specific requirements for those agents listed in Annex I, which include lead;

Whereas metallic lead and its ionic compounds are toxic agents found in a large number of circumstances at work; whereas many workers are therefore exposed to a potential health risk;

Whereas, therefore, preventive measures for the protection of the health of workers exposed to lead and the commitment envisaged for Member States with regard to the surveillance of their health are important;

Whereas workers exposed to lead in the extractive industries must enjoy a level of health protection similar to that laid down in this Directive; whereas, given the specific nature of such activities, the implementation of such protection will need to be covered by special provisions embodied in a subsequent Directive;

Whereas this Directive includes minimum requirements which will be reviewed on the basis of experience acquired and of developments in technology and medical knowledge in this area, the objective being to attain greater protection of workers,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. This Directive, which is the first individual Directive within the meaning of Article 8 of Directive 80/1107/EEC has as its aim the protection of workers against risks to their health, including the prevention of such risks, arising or likely to arise at work from exposure to metallic lead and its ionic compounds; it shall not apply to alkylated lead compounds. It shall lay down limit values and other specific requirements.

2. This Directive shall not apply to:

— sea transport,

— air transport,

— mining and quarrying of lead-containing ores and the preparation of lead-ore concentrate at the site of the mine or quarry.

3. This Directive shall not prejudice the right of Member States to apply or introduce laws, regulations or administrative provisions ensuring greater protection for workers or for a particular category of workers.

(1) OJ No C 324, 28. 12. 1979, p. 3.
(2) OJ No C 101, 4. 5. 1981, p. 14.
(3) OJ No C 300, 18. 11. 1980, p. 22.
(4) OJ No C 165, 11. 7. 1978, p. 1.
(5) OJ No L 327, 3. 12. 1980, p. 8.

Article 2

1. Any work likely to involve a risk of absorbing lead shall be assessed in such a way as to determine the nature and degree of the exposure to lead of the workers.

Annex I contains an indicative, non-exhaustive list of activities where there is reason to consider that there may be a risk of absorbing lead.

2. If the assessment provided for in paragraph 1 reveals the presence of at least one of the following conditions:

— exposure to a concentration of lead in air greater that 40 μg/m³, calculated as a time-weighted average over 40 hours per week,

— a blood-lead level greater than 40 μg Pb/100 ml blood in individual workers,

the provisions regarding information set out in Article 11 (1) shall apply and appropriate measures shall be taken to minimize the risk of absorbing lead which arises through smoking, eating and drinking at the place of work.

3. If the assessment provided for in paragraph 1 reveals that the blood-lead level of workers due to lead absorption is between 40 μg and 50 μg Pb/100 ml blood, Member States shall endeavour to carry out biological monitoring of the workers concerned in accordance with the procedures laid down by the Member States.

4. If the assessment provided for in paragraph 1 reveals the presence of at least one of the following conditions:

— exposure to a concentration of lead in air greater than 75 μg/m³, calculated as a time-weighted average over 40 hours per week,

— a blood-lead level greater than 50 μg Pb/100 ml blood in individual workers,

the protection provided for in this Directive, in particular the lead-in-air monitoring and the medical surveillance set out in Articles 3 and 4, is to be given to the workers concerned.

5. The assessment provided for in paragraph 1 shall be the subject of consultation with the workers and/or their representatives within the undertaking or establishment and shall be revised where there is reason to believe that it is incorrect or there is a material change in the work.

Article 3

1. All lead-in-air measurements shall be representative of worker exposure to particles containing lead.

Particles containing lead within the meaning of this Directive shall be those particles captured by equipment having the sampling characteristics specified in Annex II, point 1, and analyzed in accordance with the methods indicated in Annex II, point 2.

2. Monitoring of the concentration of lead in air shall take place at least every three months.

This frequency may, however, be reduced in the cases listed in paragraph 3.

3. Frequency of monitoring may be reduced to once a year, provided that there is no material change in the work and conditions of exposure, where:

(i) the results of the measurements for individual workers or for groups of workers have shown that on the previous two consecutive occasions on which monitoring was carried out:

— the lead-in-air concentration did not exceed 100 μg/m³, or

— the conditions or exposure did not fluctuate appreciably, or

(ii) the blood-lead level of any worker does not exceed 60 μg Pb/100 ml blood.

4. The monitoring for a worker or group of workers, as stipulated in paragraph 2, shall entail taking one or more air samples.

Without prejudice to the second indent of Article 7 (b), sampling shall be carried out in such a way as to permit assessment of the probable maximum risk to which the individual worker or workers are exposed, account being taken of the work done, the working conditions and the length of exposure during the course of the work. The workers concerned and/or their representatives within the undertaking or establishment shall be consulted to this end.

For the initial monitoring, after it has been established that the values laid down in Article 2 (4) have been exceeded, the duration of the sampling period shall not be less than four hours.

Subsequently this duration shall not be less than four hours if the results obtained on the occasion of the preceding monitoring have shown higher lead-

in-air concentration values than those obtained before that monitoring.

Where groups of workers are performing identical or similar tasks in the same location and are thus being exposed to the same health risk, sampling may be carried out on a group basis. In such a case, sampling shall be carried out for at least one worker out of 10.

5. The specifications referred to in paragraph 1 and Annex II, with the exception of the specification concerning the air intake velocity given at point 1 (a) of the Annex, and the technical aspects of this Article shall be adapted in the light of technical progress in accordance with the procedure set out in Article 10 of Directive 80/1107/EEC, within the limits laid down in Annex III to that Directive.

Article 4

1. Workers shall be subject to medical (clinical and biological) surveillance. This surveillance must start prior to or at the beginning of the exposure. The frequency of clinical assessment shall be at least once a year during the period of employment. Biological monitoring shall be carried out, in accordance with paragraph 2, at least every six months.

This surveillance shall take account not only of the magnitude of the exposure but also of the individual worker's susceptibility to lead.

2. The biological monitoring shall, apart from the exception mentioned in paragraph 3, include measuring the blood-lead level (PbB).

This monitoring may also include measuring one or more of the following biological indicators:

— delta aminolæ vulinic acid in urine (ALAU),

— zinc protoporphyrin (ZPP),

— delta aminolæ vulinic acid dehydratase in blood (ALAD).

The methods of measuring the biological indicators referred to above are listed in Annex III and may be adapted in accordance with the procedure specified in Article 10 of Directive 80/1107/EEC.

3. The PbB measurement referred to in paragraph 2 may be replaced by that of ALAU when dealing with workers who have been subjected for a period of less than one month to risks of high exposure.

4. The frequency of biological monitoring may be reduced to once a year where at the same time:

— the results of the measurements for individuals or for groups of workers have shown, on the previous two consecutive occasions on which monitoring was carried out, a lead-in-air concentration higher than the value laid down in the first indent of Article 2 (4) and lower than 100 μg/m³,

— the PbB level of any individual worker does not exceed the value laid down in the second indent of Article 2 (4).

5. Practical recommendations to which Member States may refer for clinical assessment are set out in Annex IV and may be adapted in accordance with the procedure set out in Article 10 of Directive 80/1107/EEC.

Article 5

1. Where the biological monitoring carried out in accordance with Article 4 (2) reveals an individual PbB level higher than 60 μg Pb/100 ml blood but lower than the limit value set out in Article 6 (1) (b), a clinical examination shall be carried out as soon as possible. However, this clinical examination may be deferred until a repeat determination of the PbB level, undertaken within one month, shows that the value of 60 μg Pb/100 ml blood continues to be exceeded.

Thereafter, biological monitoring and clinical assessment shall be carried out at shorter intervals than those laid down in Article 4 (1) at least until the PbB level is below 60 μg Pb/100 ml blood.

2. Following the clinical examination referred to in paragraph 1, the doctor or authority responsible for the medical surveillance of the workers should advise on any protective or preventive measures to be taken on an individual basis; these may include, where appropriate, the withdrawal of the worker concerned from exposure to lead or a reduction in the period of his exposure.

Article 6

1. The following limit values shall be applied:

(a) lead-in-air concentration:

150 μg/m³, calculated as a time-weighted average over 40 hours per week;

(b) value of the biological parameters:

PbB level in individual workers: 70 µg/ Pb/ 100 ml blood (1). However, a PbB level of between 70 and 80 µg Pb/100 ml blood shall be allowed if the ALAU level remains lower than 20 mg/g creatinine or the ZPP level remains lower than 20 µg/g haemoglobin or the ALAD level remains greater than six European units.

2. Where biological monitoring is based solely on ALAU measurement in accordance with Article 4 (3), the following limit value shall be applied for ALAU: 20 mg/g creatinine.

3. The Council, acting on a proposal from the Commission, and taking into account in particular progress made in scientific knowledge and technology as well as experience gained in the application of this Directive, shall re-examine the limit values for the biological parameters within five years of adoption of this Directive, with a view to setting a maximum blood-lead limit value of 70 µg Pb/ 100 ml blood.

Article 7

For the purpose of establishing whether or not the lead-in-air limit value fixed in Article 6 (1) (a) has been exceeded, it is appropriate to proceed as follows:

(a) If the total sampling period is of 40 hours in one week then the lead-in-air concentrations obtained can be compared directly with the limit value laid down in Article 6 (1) (a);

(b) If the total sampling period is less than 40 hours in one week then:

— the limit value laid down in Article 6 (1) (a) shall not be considered as having been exceeded if the concentration obtained by sampling in accordance with Article 3 (4) is below the numerical level of the limit value,

— if the concentration referred to in the first indent exceeds the numerical level of the limit value then at least three additional lead-in-air samples shall be taken which are representative of average exposure to lead; the total period over which each of these three samples is taken shall be at least four hours.

If, from four samples taken over a period of one week, it is found that three levels of concentration are below the numerical level of the limit value, then it shall be deemed that this limit value has not been exceeded.

Article 8

1. Where the lead-in-air limit value laid down in Article 6 (1) (a) is exceeded the reasons for the limit being exceeded shall be identified and appropriate measures to remedy the situation shall be taken as soon as possible.

The doctor or authority responsible for the medical surveillance of the workers shall judge whether an immediate determination of the biological parameters of the workers concerned should be carried out.

In order to check the effectiveness of the measures mentioned in the first subparagraph, a further determination of the lead-in-air concentrations on the basis of the procedures laid down in Articles 3 and 7 shall be carried out.

2. Where the measures referred to in the first subparagraph of paragraph 1 cannot, owing to their nature or magnitude, be taken within one month and a further determination of lead-in-air concentrations shows that the lead-in-air limit values continue to be exceeded, work may not be continued in the affected area until adequate measures have been taken for the protection of the workers concerned, in the light of the opinion of the doctor or authority responsible for medical surveillance.

Where the exposure cannot reasonably be reduced by other means and where the wearing of individual respiratory protective equipment proves necessary, this may not be permanent and shall be kept to the strict minimum necessary for each worker.

3. In the case of incidents likely to lead to significant increases in exposure to lead, workers shall be immediately evacuated from the affected area. Only workers whose presence is required to carry out the necessary repairs may enter the affected area on condition that they use suitable protective apparatus.

4. In the case of certain operations in respect of which it is foreseen that the limit value set out in

(1) Corresponds in SI units to 3-4 µ mol lead per litre blood.

paragraph 1 will be exceeded and in respect of which technical preventive measures for limiting concentrations in the air are not reasonably practicable, the employer shall define the measures intended to ensure protection of the workers during operations of this kind. The workers and/or their representatives in the undertaking or establishment shall be consulted on these measures before such operations are effected.

Article 9

1. Where the biological limit value laid down in Article 6 (1) (b) has been exceeded:

— the necessary steps shall be taken immediately to ascertain the reasons for this excess and to remedy the situation. Such measures may, depending on the magnitude of the excess, and where it is considered desirable by the doctor or authority responsible for the medical surveillance of the workers include the immediate withdrawal of the worker concerned from all exposure to lead,

— a further determination of the PbB level shall be made within three months. Following this determination, the worker concerned must not continue at his work or at any other work involving an equal or greater risk of exposure to lead if the biological limit value continues to be exceeded. The worker concerned may be assigned, following an opinion from the doctor or authority responsible for medical surveillance, to other work involving a lesser risk of exposure. In this case, he shall be subject to more frequent medical assessments.

However, Member States may take different measures for workers who, having been exposed to lead over a number of years, have a very high body burden of lead when this Directive becomes applicable.

2. The worker concerned or the employer may ask for a review of the assessments referred to in paragraph 1.

Article 10

1. For all work carried out under the conditions set out in Article 2 (4), appropriate measures shall be taken to ensure that:

(a) (i) the risk of absorbing lead through smoking, eating or drinking is avoided,

(ii) areas are set aside where workers can eat and drink without risking contamination by lead,

(iii) in very hot workplaces where workers should be encouraged to drink, workers are provided with drinking water or other drinks not contaminated by the lead present in the workplace;

(b) (i) workers are provided with appropriate working or protective clothing, taking into account the physico-chemical properties of the lead compounds to which they are exposed.

(ii) this working or protective clothing remains within the undertaking. It may, however, be laundered in establishments outside the undertaking which are equipped for this sort of work, if the undertaking itself does not carry out cleaning; where this is the case, the clothing shall be transported in closed containers,

(iii) working or protective clothing and street clothes are stored separately,

(iv) workers are provided with adequate and appropriate washing facilities, including showers in the case of dusty operations.

2. The cost of the measures taken pursuant to paragraph 1 shall not be borne by the workers.

Article 11

1. For all work carried out under the conditions set out in Article 2 (2), appropriate measures shall be taken so that workers and their representatives in the undertaking or establishment are provided with adequate information on:

— the potential risks to health from lead exposure, including the potential risks for the foetus and infants being breast-fed,

— the existence of statutory limit values and the need for biological and atmospheric monitoring,

— hygiene requirements, including the need to refrain from smoking, eating or drinking at the workplace,

— the precautions to be taken as regards the wearing and use of protective equipment and clothing,

— the special precautions to be taken to minimize exposure to lead.

2. In addition to the measures referred to in paragraph 1, for all work carried out under the conditions set out in Article 2 (4), appropriate measures shall be taken so that:

(a) workers and/or their representatives within the undertaking or establishment have access to:

— the results of lead-in-air measurements,

— the statistical (non-personalized) results of biological monitoring,

and explanations of the significance of these results are available to them;

(b) if the results exceed the lead-in-air limit value laid down in Article 6 (1) (a) the workers concerned and their representatives in the undertaking or establishment are informed as quickly as possible of the excess and the reason for it and the workers and/or their representatives in the undertaking or establishment are consulted on the measures to be taken or, in an emergency, are informed of the measures which have been taken;

(c) each time PbB tests, ALAU tests or any other biological measurements for assessing lead exposure are carried out, the workers concerned are informed, on the authority of the doctor responsible, of the results of those measurements and the interpretation placed on the results.

Article 12

The doctor or authority responsible for medical surveillance of the workers shall have access to all information necessary for determining the extent of workers' exposure to lead, including the results of the lead-in-air monitoring.

Article 13

Steps shall be taken to ensure that individual data relating to the exposure of workers and their clinical and biological examinations are recorded and stored in an appropriate form, in accordance with national laws and practices.

Article 14

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 1 January 1986 at the latest and shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the texts of the provisions of national law which they adopt in the field covered by this Directive.

Article 15

This Directive is addressed to the Member States.

Done at Brussels, 28 July 1982.

For the Council

The President

O. MØLLER

ANNEX I

List of activities referred to in the second subparagraph of Article 2 (1)

1. Handling of lead concentrate.
2. Lead and zinc smelting and refining (primary and secondary).
3. Lead arsenate spray manufacture and handling.
4. Manufacture of lead oxides.
5. Production of other lead compounds (including that part of the production of alkyl lead compounds, where it includes exposure to metallic lead and its ionic compounds).
6. Manufacture of paints, enamels, mastics and colours containing lead.
7. Battery manufacture and recycling (1).
8. Craftwork in tin and lead.
9. Manufacture of lead solder.
10. Lead ammunition manufacture.
11. Manufacture of lead-based or lead-alloy objects.
12. Use of paints, enamels, mastics and colours containing lead.
13. Ceramic and craft pottery industries (1).
14. Crystal glass industries.
15. Plastic industries using lead additives.
16. Frequent use of lead solder in an enclosed space.
17. Printing work involving the use of lead.
18. Demolition work, especially the processes of scraping off, burning off and flame-cutting executed on materials coated with paint containing lead, as well as the breaking up of plant (e.g. lead furnaces) (1).
19. Use of lead ammunition in an enclosed space.
20. Automobile construction and repair work (1).
21. Manufacture of leaded steel.
22. Lead tempering of steel.
23. Lead coating.
24. Recovery of lead and metallic residues containing lead.

(1) Inasmuch as lead is used or is present.

ANNEX II

Technical specifications referred to in the second subparagraph of Article 3 (1)

1. The equipment is that which complies with the technical specifications listed below:

   (a) *Air intake velocity at the orifice:* 1·25 m/s ± 10 %;

   (b) *Air flow rate:* at least 1 l/min.;

   (c) *Sampling head characteristics:* a closed face sampling head should be used, to avoid filter contamination;

   (d) *Intake orifice diameter:* at least 4 mm diameter in order to avoid wall effects;

   (e) *Filter or intake orifice position:* as far as possible kept parallel to the face of the worker during the whole sampling period;

   (f) *Filter efficiency:* a minimum of 95 % efficiency for all particles sampled down to an aerodynamic diameter of 0·3 μm;

   (g) *Filter homogeneity:* maximum homogeneity of the lead content in the filter to allow for comparison between two halves of the same filter.

2. The lead-in-air sample collected in accordance with the procedures in point 1 is to be analyzed by atomic absorption spectroscopy or any other method which gives equivalent results.

ANNEX III

Methods of measuring biological indicators referred to in Article 4 (2)

PbB: Atomic absorption spectroscopy,

ALAU: Davis (1) or equivalent method,

ZPP: Haematofluorimetry (2) or equivalent method,

ALAD: European standardized method (3) or equivalent method.

Appropriate quality control programmes will be established by the Commission.

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(1) Davis J. R., and Andelman S. L. 'Urinary delta-aminolevulinic acid levels in lead poisoning. A modified method for the rapid determination of urinary delta-aminolevulinic acid using disposable ion-exchange chromatographic columns'. Arch. Environ. Health 15, 53-9 (1967).

(2) Blumberg W. E., Eisinger J., Lamola A. A., and Zuckerman D. M. 'Zinc protoporphyrin level in blood determination by a portable haematofluometer. A screening device for lead poisoning'. J. Lab. Clin. Med. 89, 712-723 (1977).

(3) (a) Council Directive 77/312/EEC of 29 March 1977 on biological screening of the population for lead. OJ No L 105, 28. 4. 1977, p. 10 (Annex III).
(b) A. Berlin and K. H. Schaller 'European standardized method for the determination of delta-aminolevulinic acid dehydratase activity in blood'. 3. Klin. Chem. Klin. Biochem. 12, 389-390 (1974).

ANNEX IV

Practical recommendations for the clinical assessment of workers referred to in Article 4 (5)

1. Current knowledge indicates that large-scale absorption may produce adverse effects in the following systems:

   — hematopoietic,

   — gastro-intestinal,

   — central and peripheral nervous,

   — renal.

2. The doctor in charge of the medical surveillance of the worker exposed to lead should be familiar with the exposure conditions or circumstances of each worker.

3. Clinical assessment of the workers should be carried out in accordance with sound practice; it should include the following measures:

   — records of the worker's medical and occupational history,

   — physical examination and a personal interview with special attention to the associated symptoms of early lead poisoning,

   — evaluation of the pulonary status (for possible use of respiratory protective equipment).

   Blood analyses (and, in particular, establishment of the hematocrit level) and urine analysis should be carried out during the first medical examination and then regularly according to the doctor's judgement.

4. In addition to the decisions based on the results of biological monitoring, the examining doctor will establish the cases where exposure or continued exposure to lead is contra-indicated. The most important of these contra-indications are:

   (i) — congenital abnormalities:

   — thalassemia,

   — G — 6 — PD deficiency;

   (ii) — acquired conditions:

   — anaemia,

   — renal deficiencies,

   — hepatic deficiencies.

5. Use of chelating agents:

   The prohphylactic use of chelating agents, sometimes called 'preventive therapy' is medically and ethically unacceptable. Many chelating agents may be considered nephrotoxic when administered for long periods.

6. Intoxication therapy:

   To be carried out by specialists.

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II

(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DIRECTIVE

of 19 September 1983

on the protection of workers from the risks related to exposure to asbestos at work (second individual Directive within the meaning of Article 8 of Directive 80/1107/EEC)

(83/477/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission (1),

Having regard to the opinion of the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas the Council resolution of 29 June 1978 on an action programme of the European Communities on safety and health at work (4) provides for the establishment of specific harmonized procedures regarding the protection of workers with respect to asbestos;

Whereas Council Directive 80/1107/EEC of 27 November 1980 on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work (5) laid down certain provisions which have to be taken into account for this protection; whereas that Directive provides for the laying down in individual Directives of limit values and specific requirements for those agents listed in Annex I, which include asbestos;

Whereas asbestos is a harmful agent found in a large number of circumstances at work; whereas many workers are therefore exposed to a potential health risk; whereas crocidolite is considered to be a particularly dangerous type of asbestos;

Whereas, although current scientific knowledge is not such that a level can be established below which risks to health cease to exist, a reduction in exposure to asbestos will nonetheless reduce the risk of developing asbestos-related disease; whereas this Directive includes minimum requirements which will be reviewed on the basis of experience acquired and of developments in technology in this area;

Whereas optical microscopy, although it does not allow a counting of the smallest fibres detrimental to health, is the most currently used method for the regular measuring of asbestos;

Whereas, therefore, preventive measures for the protection of the health of workers exposed to asbestos and the commitment envisaged for Member States with regard to the surveillance of their health are important,

(1) OJ No C 262, 9. 10. 1980, p. 7 and OJ No C 301, 18. 11. 1982, p. 6.
(2) OJ No C 310, 30. 11. 1981, p. 43.
(3) OJ No C 125, 17. 5. 1982, p. 155.
(4) OJ No C 165, 11. 7. 1978, p. 1.
(5) OJ No L 327, 3. 12. 1980, p. 8.

HAS ADOPTED THIS DIRECTIVE :

Article 1

1. This Directive, which is the second individual Directive within the meaning of Article 8 of Directive 80/1107/EEC, has as its aim the protection of workers against risks to their health, including the prevention of such risks, arising or likely to arise from exposure to asbestos at work. It lays down limit values and other specific requirements.

2. This Decision shall not apply to :

— sea transport,

— air transport.

3. This Directive shall not prejudice the right of Member States to apply or introduce laws, regulations or administrative provisions ensuring greater protection for workers, in particular as regards the replacement of asbestos by less-dangerous substitutes.

Article 2

For the purposes of this Directive, 'asbestos' means the following fibrous silicates :

— Actinolite, CAS No 77536-66-4 (*) (1),

— Asbestos grünerite (amosite) CAS No 12172-73-5 (*) (1),

— Anthophyllite, CAS No 77536-67-5 (*) (1),

— Chrysotile, CAS No 12001-29-5 (1),

— Crocidolite, CAS No 12001-28-4 (1),

— Tremolite, CAS No 77536-68-6 (*) (1).

Article 3

1. This Directive shall apply to activities in which workers are or may be exposed in the course of their work to dust arising from asbestos or materials containing asbestos.

2. In the case of any activity likely to involve a risk of exposure to dust arising from asbestos or materials containing asbestos, this risk must be assessed in such a way as to determine the nature and degree of the workers' exposure to dust arising from asbestos or materials containing asbestos.

3. If the assessment referred to in paragraph 2 shows that the concentration of asbestos fibres in the air at the place of work in the absence of any individual protective equipment is, at the option of the Member States, at a level as measured or calculated in relation to an eight-hour reference period,

— lower than 0,25 fibre per cm^3 and/or

— lower than a cumulative dose of 15,00 fibre-days per cm^3 over three months,

Articles 4, 7, 13, 14 (2), 15 and 16 shall not apply.

4. The assessment provided for in paragraph 2 shall be the subject of consultation with the workers and/or their representatives within the undertaking or establishment and shall be revised where there is reason to believe that it is incorrect or there is a material change in the work.

Article 4

Subject to Article 3 (3), the following measures shall be taken :

1. The activities referred to in Article 3 (1) must be covered by a notification system administered by the responsible authority of the Member State.

2. The notification must be submitted by the employer to the responsible authority of the Member State, in accordance with national laws, regulations and administrative provisions. This notification must include at least a brief description of :

   — the types and quantities of asbestos used,

   — the activities and processes involved,

   — the products manufactured.

3. Workers and/or their representatives in undertakings or establishments shall have access to the documents which are the subject of notification concerning their own undertaking or establishment in accordance with national laws.

4. Each time an important change occurs in the use of asbestos or of materials containing asbestos, a new notification must be submitted.

Article 5

The application of asbestos by means of the spraying process must be prohibited.

Article 6

For all activities referred to in Article 3 (1), the exposure of workers to dust arising from asbestos or materials containing asbestos at the place of work must be reduced to as low a level as is reasonably practicable and in any case below the limit values laid down in Article 8, in particular through the following measures if appropriate :

1. The quantity of asbestos used in each case must be limited to the minimum quantity which is reasonably practicable.

2. The number of workers exposed or likely to be exposed to dust arising from asbestos or materials containing asbestos must be limited to the lowest possible figure.

(*) Number in the register of the Chemical Abstract Service (CAS).

3. Work processes must, in principle, be so designed as to avoid the release of asbestos dust into the air.

   If this is not reasonably practicable, the dust should be eliminated as near as possible to the point where it is released.

4. All buildings and/or plant and equipment involved in the processing or treatment of asbestos must be capable of being regularly and effectively cleaned and maintained.

5. Asbestos as a raw material must be stored and transported in suitable sealed packing.

6. Waste must be collected and removed from the place of work as soon as possible in suitable sealed packing with labels indicating that it contains asbestos. This measure shall not apply to mining activities.

   The waste referred to in the preceding paragraph shall then be dealt with in accordance with Council Directive 78/319/EEC of 20 March 1978 on toxic and dangerous waste (1).

Article 7

Subject to Article 3 (3), the following measures shall be taken :

1. In order to ensure compliance with the limit values laid down in Article 8, the measurement of asbestos in the air at the place of work shall be carried out in accordance with the reference method described in Annex I or any other method giving equivalent results. Such measurement must be planned and carried out regularly, with sampling being representative of the personal exposure of the worker to dust arising from asbestos or materials containing asbestos.

   For the purposes of measuring asbestos in the air, as referred to in the preceding paragraph, only fibres with a length of more than five micrometres and a length/breadth ratio greater than 3 : 1 shall be taken into consideration.

   The Council, acting on a proposal from the Commission, and taking account in particular of progress made in scientific knowledge and technology and of experience gained in the application of this Directive, shall re-examine the provisions of the first sentence of paragraph 1 within five years following the adoption of this Directive, with a view to establishing a single method for measurement of asbestos-in-air concentrations at Community level.

2. Sampling shall be carried out after consulting the workers and/or their representatives in undertakings or establishments.

3. Sampling shall be carried out by suitably qualified personnel. The samples taken shall be subsequently analyzed in laboratories equipped to analyze them and qualified to apply the necessary identification techniques.

4. The amount of asbestos in the air shall be measured as a general rule at least every three months and, in any case, whenever a technical change is introduced. The frequency of measurements may, however, be reduced in the circumstances specified in paragraph 5.

5. The frequency of measurements may be reduced to once a year where :

   — there is no substantial change in conditions at the place of work, and

   — the results of the two preceding measurements have not exceeded half the limit values fixed in Article 8.

   Where groups of workers are performing identical or similar tasks at the same place and are thus being exposed to the same health risk, sampling may be carried out on a group basis.

6. The duration of sampling must be such that representative exposure can be established for an eight-hour reference period (one shift) by means of measurements or time-weighted calculations. The duration of the various sampling processes shall be determined also on the basis of point 6 of Annex I.

Article 8

The following limit values shall be applied :

(a) concentration of asbestos fibres other than crocidolite in the air at the place of work :

   1,00 fibres per cm^3 measured or calculated in relation to an eight-hour reference period ;

(b) concentration of crocidolite fibres in the air at the place of work :

   0,50 fibres per cm^3 measured or calculated in relation to an eight-hour reference period ;

(c) concentration of asbestos fibres in the air at the place of work in the case of mixtures of crocidolite and other asbestos fibres :

   the limit value is at a level calculated on the basis of the limit values laid down in (a) and (b), taking into account the proportions of crocidolite and other asbestos types in the mixture.

(1) OJ No L 84, 31. 3. 1978, p. 43.

Article 9

The Council, acting on a proposal from the Commission, shall, taking into account, in particular, progress made in scientific knowledge and technology and in the light of experience gained in applying this Directive, review the provisions laid down in Article 3 (3) and in Article 8 before 1 January 1990.

Article 10

1. Where the limit values laid down in Article 8 are exceeded, the reasons for the limits being exceeded must be identified and appropriate measures to remedy the situation must be taken as soon as possible.

Work may not be continued in the affected area until adequate measures have been taken for the protection of the workers concerned.

2. In order to check the effectiveness of the measures mentioned in the first subparagraph of paragraph 1, a further determination of the asbestos-in-air concentrations shall be carried out immediately.

3. Where exposure cannot reasonably be reduced by other means and where the wearing of individual respiratory protective equipment proves necessary, this may not be permanent and shall be kept to the strict minimum necessary for each worker.

Article 11

1. In the case of certain activities in respect of which it is foreseeable that the limit values laid down in Article 8 will be exceeded and in respect of which technical preventive measures for limiting asbestos-in-air concentrations are not reasonably practicable, the employer shall determine the measures intended to ensure protection of the workers while they are engaged in such activities, in particular the following:

(a) workers shall be issued with suitable respiratory equipment and other personal protective equipment, which must be worn; and

(b) warning signs shall be put up indicating that it is foreseeable that the limit values laid down in Article 8 will be exceeded.

2. The workers and/or their representatives in the undertaking or establishment shall be consulted on these measures before the activities concerned are carried out.

Article 12

1. A plan of work shall be drawn up before demolition work or work on removing asbestos and/or asbestos-containing products from buildings, structures, plant or installations or from ships is started.

2. The plan referred to in paragraph 1 must prescribe the measures necessary to ensure the safety and health of workers at the place of work.

The plan must in particular specify that:

— as far as is reasonably practicable, asbestos and/or asbestos-containing products are removed before demolition techniques are applied,

— the personal protective equipment referred to in Article 11 (1) (a) is provided, where necessary.

Article 13

1. In the case of all activities referred to in Article 3 (1), and subject to Article 3 (3), appropriate measures shall be taken to ensure that:

(a) the places in which the above activities take place shall:

(i) be clearly demarcated and indicated by warning signs;

(ii) not be accessible to workers other than those who by reason of their work or duties are required to enter them;

(iii) constitute areas where there should be no smoking;

(b) areas are set aside where workers can eat and drink without risking contamination by asbestos dust;

(c) (i) workers are provided with appropriate working or protective clothing;

(ii) this working or protective clothing remains within the undertaking. It may, however, be laundered in establishments outside the undertaking which are equipped for this sort of work if the undertaking does not carry out the cleaning itself; in that event the clothing shall be transported in closed containers;

(iii) separate storage places are provided for working or protective clothing and for street clothes;

(iv) workers are provided with appropriate and adequate washing and toilet facilities, including showers in the case of dusty operations;

(v) protective equipment shall be placed in a well-defined place and shall be checked and cleaned after each use; appropriate measures shall be taken to repair or replace defective equipment before further use.

2. Workers may not be charged with the cost of measures taken pursuant to paragraph 1.

Article 14

1. In the case of all activities referred to in Article 3 (1), appropriate measures shall be taken to ensure that workers and their representatives in the undertaking or establishment receive adequate information concerning :

— the potential risks to health from exposure to dust arising from asbestos or materials containing asbestos,

— the existence of statutory limit values and the need for the atmosphere to be monitored,

— hygiene requirements, including the need to refrain from smoking,

— the precautions to be taken as regards the wearing and use of protective equipment and clothing,

— special precautions designed to minimize exposure to asbestos.

2. In addition to the measures referred to in paragraph 1, and subject to Article 3 (3), appropriate measures shall be taken to ensure that :

(a) workers and/or their representatives in the undertaking or establishment have access to the results of asbestos-in-air concentration measurements and can be given explanations of the significance of those results ;

(b) if the results exceed the limit values laid down in Article 8 the workers concerned and their representatives in the undertaking or establishment are informed as quickly as possible of the fact and the reason for it and the workers and/or their representatives in the undertaking or establishment are consulted on the measures to be taken or, in an emergency, are informed of the measures which have been taken.

Article 15

Subject to Article 3 (3) the following measures shall be taken :

1. An assessment of each worker's state of health must be available prior to the beginning of exposure to dust arising from asbestos or materials containing asbestos at the place of work.

   This assessment must include a specific examination of the chest. Annex II gives practical recommendations to which the Member States may refer for the clinical surveillance of workers ; these recommendations shall be adapted to technical progress in accordance with the procedure set out in Article 10 of Directive 80/1107/EEC.

   A new assessment must be available at least once every three years for as long as exposure continues.

   An individual health record shall be established in accordance with national laws and practices for each worker referred to in the first subparagraph.

2. Following the clinical surveillance referred to in point 1, the doctor or authority responsible for the medical surveillance of the workers should, in accordance with national laws, advise on or determine any individual protective or preventive measures to be taken ; these may include, where appropriate, the withdrawal of the worker concerned from all exposure to asbestos.

3. Information and advice must be given to workers regarding any assessment of their health which they may undergo following the end of exposure.

4. The worker concerned or the employer may request a review of the assessments referred to in point 2, in accordance with national laws.

Article 16

Subject to Article 3 (3) the following measures shall be taken :

1. The employer must enter the workers responsible for carrying out the activities referred to in Article 3 (1) in a register, indicating the nature and duration of the activity and the exposure to which they have been subjected. The doctor and/or the authority responsible for medical surveillance shall have access to this register. Each worker shall have access to the results in the register which relate to him personally. The workers and/or their representatives shall have access to anonymous, collective information in the register.

2. The register referred to in point 1 and the medical records referred to in point 1 of Article 15 shall be kept for at least 30 years following the end of exposure, in accordance with national laws.

Article 17

Member States shall keep a register of recognized cases of asbestosis and mesothelioma.

Article 18

1. Member States shall adopt the laws, regulations and administrative provisions necessary to comply with this Directive before 1 January 1987. They shall forthwith inform the Commission thereof. The date 1 January 1987 is, however, postponed until 1 January 1990 in the case of asbestos-mining activities.

2. Member States shall communicate to the Commission the provisions of national law which they adopt in the field covered by this Directive.

Article 19

This Directive is addressed to the Member States.

Done at Brussels, 19 September 1983.

For the Council
The President
G. VARFIS

ANNEX I

Reference method referred to in Article 7 (1) for the measurement of asbestos in air at the place of work

1. Samples shall be taken within the individual worker's breathing zone : i.e. within a hemisphere of 300 mm radius extending in front of the face and measured from the mid-point of a line joining the ears.

2. Membrane filters (mixed esters of cellulose or cellulose nitrate) of pore size 0,8 to 1,2 micrometres with printed squares and a diameter of 25 mm shall be used.

3. An open-faced filter holder fitted with a cylindrical cowl extending between 33 and 44 mm in front of the filter exposing a circular area of at least 20 mm in diameter shall be used. In use, the cowl shall point downwards.

4. A portable battery-operated pump carried on the worker's belt or in a pocket shall be used. The flow shall be smooth and the rate initially set at 1,0 litres per minute ± 5 %. The flow rate shall be maintained within ± 10 % of the initial rate during the sampling period.

5. The sampling time shall be measured to within a tolerance of 2 %.

6. The optimal fibre-loading on filters shall be within the range 100 to 400 fibres/mm^2.

7. In order of preference, the whole filter, or a section of the filter, shall be placed on a microscope slide, made transparent using the acetone-triacetin method, and covered with a glass coverslip.

8. A binocular microscope shall be used for counting and shall have the following features :

   — Koehler illumination,

   — its substage assembly shall incorporate an Abbe or achromatic phase-contrast condenser in a centring focusing mount. The phase-contrast centring adjustment shall be independent of the condenser centring mechanism,

   — a 40 times bar-focal positive phase-contrast achromatic objective with a numerical aperture of 0,65 to 0,70 and phase ring absorption within the range 65 to 85 %,

   — 12,5 times compensating eyepieces ; at least one eyepiece must permit the insertion of a graticule and be of the focusing type,

   — a Walton-Beckett circular eyepiece graticule with an apparent diameter in the object plane of 100 micrometres ± 2 micrometres, when using the specified objective and eyepiece, checked against a stage micrometer.

9. The microscope shall be set up according to the manufacturer's instructions, and the detection limit checked using a 'phase-contrast test slide'. Up to code 5 on the AIA test slides or up to block 5 on the HSE/NPL mark 2 test slide must be visible when used in the way specified by the manufacturer. This procedure shall be carried out at the beginning of the day of use.

10. Samples shall be counted in accordance with the following rules :

   — a countable fibre is any fibre referred to in the second subparagraph of point 1 of Article 7 which does not touch a particle with a maximum diameter greater than three micrometers,

   — any countable fibre with both ends within the graticule area shall be counted as one fibre ; any fibre with only one end within the area shall count as half,

   — graticule areas for counting shall be chosen at random within the exposed area of the filter,

   — an agglomerate of fibres which at one or more points on its length appears solid and undivided but at other points is divided into separate strands (a split fibre) is counted as a single fibre if it conforms with the description in the second subparagraph of point 1 of Article 7 and indent 1 of this paragraph, the diameter measured being that of the undivided part, not that of the split part,

— in any other agglomerate of fibres in which individual fibres touch or cross each other (a bundle), the fibres shall be counted individually if they can be distinguished sufficiently to determine that they conform with the description in the second subparagraph of point 1 of Article 7 and indent 1 of this paragraph. If no individual fibres meeting the definition can be distinguished, the bundle is considered to be a countable fibre if, taken as a whole, it conforms with the description in the second subparagraph of point 1 of Article 7 and indent 1 of this paragraph,

— if more than one-eighth of a graticule area is covered by an agglomerate of fibres and/or particles, the graticule area must be rejected and another counted,

— 100 fibres shall be counted, which will enable a minimum of 20 graticule areas to be examined, or 100 graticule ares shall be examined.

11. The mean number of fibres per graticule is calculated by dividing the number of fibres counted by the number of graticule areas examined. The effect on the count of marks on the filter and contamination shall be kept below three fibres/100 graticule areas and shall be assessed using blank filters.

Concentration in air = (number per graticule area × exposed area of filter) / (graticule area × volume of air collected).

ANNEX II

Practical recommendations for the clinical assessment of workers, as referred to in Article 15 (1)

1. Current knowledge indicates that exposure to free asbestos fibres can give rise to the following diseases :

— asbestosis,

— mesothelioma,

— bronchial carcinoma,

— gastro-intestinal carcinoma.

2. The doctor and/or authority responsible for the medical surveillance of workers exposed to asbestos must be familiar with the exposure conditions or circumstances of each worker.

3. Clinical surveillance of workers should be carried out in accordance with the principles and practices of occupational medicine ; it should include at least the following measures :

— keeping records of a worker's medical and occupational history,

— a personal interview,

— a clinical examination of the chest,

— a respiratory function examination.

Further examinations, including a standard format radiograph of the chest and laboratory tests such as a sputum cytology test, are desirable. These examinations should be decided upon for each worker when he is the subject of medical surveillance, in the light of the most recent knowledge available to occupational medicine.

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II

(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DIRECTIVE

of 12 May 1986

on the protection of workers from the risks related to exposure to noise at work

(86/188/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission, drawn up after consulting the Advisory Committee on Safety, Hygiene and Health Protection at Work (1);

Having regard to the opinion of the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas the Council resolutions of 29 June 1978 and 27 February 1984 on action programmes of the European Communities on safety and health at work (4) provide for the implementation of specific harmonized procedures for the protection of workers exposed to noise; whereas the measures adopted in this field vary from State to State and it is recognized that they urgently need to be approximated and improved;

Whereas exposure to high noise levels is encountered in a large number of situations and therefore many workers are exposed to a potential safety and health hazard;

Whereas a reduction of exposure to noise reduces the risk of hearing impairment caused by noise;

Whereas, where the noise level at the workplace involves a risk for the health and safety of workers, limiting exposure to noise reduces that risk without prejudice to the applicable provisions on the limitation of noise emission;

Whereas the most effective way of reducing noise levels at work is to incorporate noise prevention measures into the design of installations and to choose materials, procedures and working methods which produce less noise; whereas the priority aim must be to achieve the said reduction at source;

Whereas the provision and use of personal ear protectors is a necessary complementary measure to the reduction of noise at source, where exposure cannot reasonably be avoided by other means;

Whereas noise is an agent to which Council Directive 80/1107/EEC of 27 November 1980 on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work (5) applies; whereas Articles 3 and 4 of the said Directive provide for the possibility of laying down limit values and other special measures in respect of the agents being considered;

Whereas certain technical aspects must be defined and may be reviewed in the light of experience and progress made in the technical and scientific field;

Whereas the current situation in the Member States does not make it possible to fix a noise-exposure value below which there is no longer any risk to workers' hearing;

(1) OJ No C 289, 5. 11. 1982, p. 1; OJ No C 214, 14. 8. 1984, p. 11.
(2) OJ No C 46, 20. 2. 1984, p. 130; OJ No C 117, 30. 4. 1984, p. 5.
(3) OJ No C 23, 30. 1. 1984, p. 36.
(4) OJ No C 165, 11. 7. 1978, p. 1; OJ No C 67, 8. 3. 1984, p. 2.
(5) OJ No L 327, 3. 12. 1980, p. 8.

Whereas current scientific knowledge about the effects that exposure to noise may have on health, other than on hearing, does not enable precise safety levels to be set; whereas, however, reduction of noise will lower the risk of illnesses unrelated to auditory complaints; whereas this Directive contains provisions which will be reviewed in the light of experience and developments in scientific and technical knowledge in this field,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. This Directive, which is the third individual Directive within the meaning of Directive 80/1107/EEC, has as its aim the protection of workers against risks to their hearing and, in so far as this Directive expressly so provides, to their health and safety, including the prevention of such risks arising or likely to arise from exposure to noise at work.

2. This Directive shall apply to all workers, including those exposed to radiation covered by the scope of the EAEC Treaty, with the exception of workers engaged in sea transport and in air transport.

For the purpose of this Directive, the expression 'workers engaged in sea transport and in air transport' shall refer to personnel on board.

On a proposal from the Commission the Council shall examine, before 1 January 1990, the possibility of applying this Directive to workers engaged in sea transport and in air transport.

3. This Directive shall not prejudice the right of Member States to apply or introduce, subject to compliance with the Treaty, laws, regulations or administrative provisions ensuring, where possible, greater protection for workers and/or intended to reduce the level of noise experienced at work by taking action at source, particularly in order to achieve exposure values which prevent unnecessary nuisance.

Article 2

For the purposes of this Directive, the following terms shall have the meaning hereby assigned to them:

1. *Daily personal noise exposure of a worker* $L_{EP,d}$

The daily personal noise exposure of a worker is expressed in dB (A) using the formula:

$$L_{EP,d} = L_{Aeq,Te} + 10 \log_{10} \frac{T_e}{T_o}$$

where:

$$L_{Aeq,Te} = 10 \log_{10} \left\{ \frac{1}{T_e} \int_0^{T_e} \left[\frac{p_A(t)}{p_o} \right]^2 dt \right\}$$

T_e = daily duration of a worker's personal exposure to noise,

T_o = 8 h = 28 800 s,

p_o = 20 μPa,

p_A = 'A'-weighted instantaneous sound pressure in pascals to which is exposed, in air at atmospheric pressure, a person who might or might not move from one place to another while at work; it is determined from measurements made at the position occupied by the person's ears during work, preferably in the person's absence, using a technique which minimizes the effect on the sound field.

If the microphone has to be located very close to the person's body, appropriate adjustments should be made to determine an equivalent undisturbed field pressure.

The daily personal noise exposure does not take account of the effect of any personal ear protector used.

2. *Weekly average of the daily values* $L_{EP,w}$

The weekly average of the daily values is found using the following formula:

$$L_{EP,w} = 10 \log_{10} \left[\frac{1}{5} \sum_{k=1}^{m} 10^{0,1 (L_{EP,d})_k} \right]$$

where $(L_{EP,d})_k$ are the values of $L_{EP,d}$ for each of the m working days in the week being considered.

Article 3

1. Noise experienced at work shall be assessed and, when necessary, measured in order to identify the workers and workplaces referred to in this Directive and to determine the conditions under which the specific provisions of this Directive shall apply.

2. The assessment and measurement mentioned in paragraph 1 shall be competently planned and carried out at suitable intervals under the responsibility of the employers.

Any sampling must be representative of the daily personal exposure of a worker to noise.

The methods and apparatus used must be adapted to the prevailing conditions in the light, particularly, of the characteristics of the noise to be measured, the length of exposure, ambient factors and the characteristics of the measuring apparatus.

These methods and this apparatus shall make it possible to determine the parameters defined in Article 2 and to decide whether, in a given case, the values fixed in this Directive have been exceeded.

3. Member States may lay down that personal exposure to noise shall be replaced by noise recorded at the workplace. In that event the criterion of personal exposure to noise shall be replaced, for the purposes of Articles 4 to 10, by that of noise exposure during the daily work period, such period being at least eight hours, at the places where the workers are situated.

Member States may also lay down that, when the noise is measured, special consideration shall be given to impulse noise.

4. The workers and/or their representatives in the undertaking or establishment shall be associated, according to national law and practice, with the assessment and measurement provided for in paragraph 1. These shall be revised where there is reason to believe that they are incorrect or that a material change has taken place in the work.

5. The recording and preservation of the data obtained pursuant to this Article shall be carried out in a suitable form, in accordance with national law and practice.

The doctor and/or the authority responsible and the workers and/or their representatives in the undertaking shall have access to these data, in accordance with national law and practice.

Article 4

1. Where the daily personal exposure of a worker to noise is likely to exceed 85 dB (A) or the maximum value of the unweighted instantaneous sound pressure is likely to be greater than 200 Pa (1), appropriate measures shall be taken to ensure that :

(a) workers and/or their representatives in the undertaking or establishment receive adequate information and, when relevant, training concerning :
   — potential risks to their hearing arising from noise exposure,
   — the measures taken in pursuance of this Directive,
   — the obligation to comply with protective and preventive measures, in accordance with national legislation,
   — the wearing of personal ear protectors and the role of checks on hearing in accordance with Article 7 ;

(b) workers and/or their representatives in the undertaking or establishment have access to the results of noise assessments and measurements made pursuant to Article 3 and can be given explanations of the significance of those results.

2. At workplaces where the daily personal noise exposure of a worker is likely to exceed 85 dB (A), appropriate information must be provided to workers as to where and when Article 6 applies.

At workplaces where the daily personal noise exposure of a worker is likely to exceed 90 dB (A) or where the maximum value of the unweighted instantaneous sound pressure is likely to exceed 200 Pa, the information provided for in the first subparagraph must, where reasonably practicable, take the form of appropriate signs. The areas in question must also be delimited and access to them must be restricted, where the risk of exposure so justifies and where these measures are reasonably practicable.

Article 5

1. The risks resulting from exposure to noise must be reduced to the lowest level reasonably practicable, taking account of technical progress and the availability of measures to control the noise, in particular at source.

2. Where the daily personal noise exposure of a worker exceeds 90 dB (A), or the maximum value of the unweighted instantaneous sound pressure is greater than 200 Pa :

(a) the reasons for the excess level shall be identified and the employer shall draw up and apply a programme of measures of a technical nature and/or of organization of work with a view to reducing as far as reasonably practicable the exposure of workers to noise ;

(b) workers and their representatives in the undertaking or establishment shall receive adequate information on the excess level and on the measures taken pursuant to subparagraph (a).

Article 6

1. Without prejudice to Article 5, where the daily personal noise exposure of a worker exceeds 90 dB (A) or the maximum value of the unweighted instantaneous sound pressure is greater than 200 Pa, personal ear protectors must be used.

2. Where the exposure referred to in paragraph 1 is likely to exceed 85 dB (A), personal ear protectors must be made available to workers.

3. Personal ear protectors must be supplied in sufficient numbers by the employer, the models being chosen in association, according to national law and practice, with the workers concerned.

The ear protectors must be adapted to the individual worker and to his working conditions, taking account of his safety and health. They are deemed, for the purposes of this Directive, suitable and adequate if, when properly worn, the risk to hearing can reasonably be expected to be kept below the risk arising from the exposure referred to in paragraph 1.

4. Where application of this Article involves a risk of accident, such risk must be reduced as far as is reasonably practicable by means of appropriate measures.

(1) 140 dB in relation to 20 μPa.
If the maximum value of the 'A'-weighted sound pressure level, measured with a sound-level meter using the time characteristic I (according to IEC 651) does not exceed 130 dB (AI), the maximum value of the unweighted instantaneous sound pressure can be assumed not to exceed 200 Pa.

Article 7

1. Where it is not reasonably practicable to reduce the daily personal noise exposure of a worker to below 85 dB (A), the worker exposed shall be able to have his hearing checked by a doctor or on the responsibility of the doctor and, if judged necessary by the doctor, by a specialist.

The in which this check is carried out shall be established by the Member States in accordance with national law and practice.

2. The purpose of the check shall be the diagnosis of any hearing impairment by noise and the preservation of hearing.

3. The results of checks on workers' hearing shall be kept in accordance with national law and practice.

Workers shall have access to the results which apply to them in so far as national law and practice allow.

4. Member States shall take the necessary measures with a view to the doctor and/or the authority responsible giving, as part of the check, appropriate indications on any individual protective or preventive measures to be taken.

Article 8

1. Member States shall take appropriate measures to ensure that :

(a) the design, building and/or construction of new plant (new factories, plant or machinery, substantial extensions or modifications to existing factories or plant and replacement of plant or machinery) comply with Article 5 (1);

(b) where a new article (tool, machine, apparatus, etc.) which is intended for use at work is likely to cause, for a worker who uses it properly for a conventional eight-hour period, a daily personal noise exposure equal to or greater than 85 dB (A) or an unweighted instantaneous sound pressure the maximum value of which is equal to or greater than 200 Pa, adequate information is made available about the noise produced in conditions of use to be specified.

2. The Council shall establish, on a proposal from the Commission, requirements according to which, so far as is reasonably practicable, the articles referred to in paragraph 1 (b), when properly used, do not produce noise likely to constitute a risk to hearing.

Article 9

1. In the case of workplaces where the noise exposure of a worker varies markedly from one working day to the next, Member States may, for workers performing special operations, exceptionally grant derogations from Article 5 (2), Article 6 (1) and Article 7 (1), but only on condition that the average weekly noise exposure of a worker, as shown by adequate monitoring, complies with the value laid down in these provisions.

2. (a) In exceptional situations where it is not reasonably practicable, by technical measures or organization of work, to reduce daily personal noise exposure to below 90 dB (A) or to ensure that the personal ear protectors provided for in Article 6 of this Directive are suitable and adequate within the meaning of the second subparagraph of Article 6 (3), the Member States may grant derogations from this provision for limited periods, such derogations being renewable.

In such a case, however, personal ear protectors affording the highest degree of protection which is reasonably practicable must be used.

(b) In addition, for workers performing special operations, Member States may exceptionally grant derogations from Article 6 (1) if its application involves an increase in the overall risk to the health and/or safety of the workers concerned and if it is not reasonably practicable to reduce this risk by any other means.

(c) The derogations referred to in (a) and (b) shall be subject to conditions which, in view of the individual circumstances, ensure that the risks resulting from such derogations are reduced to a minimum. The derogations shall be reviewed periodically and be revoked as soon as is reasonably practicable.

(d) Member States shall forward to the Commission every two years an adequate overall account of the derogations referred to in (a) and (b). The Commission shall inform the Member States thereof in an appropriate manner.

Article 10

The Council, acting on a proposal from the Commission, shall re-examine this Directive before 1 January 1994, taking into account in particular progress made in scientific knowledge and technology as well as experience gained in the application of this Directive, with a view to reducing the risks arising from exposure to noise.

In the context of this re-examination, the Council, acting on a proposal from the Commission, shall endeavour to lay down indications for measuring noise which are more precise than those given in Annex I.

Article 11

Member States shall see to it that workers' and employers' organizations are consulted before the provisions for the implementation of the measures referred to in this Directive are adopted, and that where workers' representatives exist in the undertaking or establishments they can check that such provisions are applied or can be involved in their application.

Article 12

1. For the measurement of noise and checking workers' hearing, any methods may be used which at least satisfy the provisions contained in Articles 3 and 7.

2. Indications for measuring noise and for checking workers' hearing are given in Annexes I and II.

Annexes I and II shall be adapted to technical progress in accordance with Directive 80/1107/EEC and under the procedure set out in Article 10 thereof.

Article 13

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 1 January 1990. They shall forthwith inform the Commission thereof.

However, in the case of the Hellenic Republic and the Portuguese Republic the relevant date shall be 1 January 1991.

2. Member States shall communicate to the Commission the provisions of national law which they adopt in the field covered by this Directive. The Commission shall inform the other Member States thereof.

Article 14

This Directive is addressed to the Member States.

Done at Brussels, 12 May 1986.

For the Council

The President

W. F. van EEKELEN

ANNEX I

INDICATIONS FOR MEASURING NOISE

A. 1. **General**

The quantities defined in Article 2 can be either:

(i) measured directly by integrating sonometers, or

(ii) calculated from measurements of sound pressure and exposure duration.

Measurements may be made at the work place(s) occupied by workers, or by using instruments attached to the person.

The location and duration of the measurements must be sufficient to ensure that exposure to noise during the working day can be recorded.

2. **Instrumentation**

2.1. If integrating averaging sonometers are used, they shall comply with IEC standard 804.

If sonometers are used, they shall comply with IEC standard 651. Instruments incorporating an overload indication are preferred.

If data are stored on tape as an intermediate step of the measurement procedure, potential errors caused by the process of sorting and replay shall be taken into account when analyzing the data.

2.2. An instrument used to measure directly the maximum (peak) value of the unweighted instantaneous sound pressure shall have an onset time constant not exceeding 100 µs.

2.3. All equipment shall be calibrated in a laboratory at suitable intervals.

3. **Measurement**

3.1. An on-site check shall be made at the beginning and end of each day of measurement.

3.2. Measurement of workplace sound pressure should preferably be made in the undisturbed sound field in the workplace (i. e. with the person concerned being absent) and with the microphone located at the position (s) normally occupied by the ear exposed to the highest value of exposure.

If it is necessary for the person to be present, either:

(i) the microphone should be located at a distance from the person's head which will reduce, as far as possible, the effects of diffraction and distance on the measured value (a suitable distance is 0,10 m), or

(ii) if the microphone must be located very close to the person's body, appropriate adjustments should be made to determine an equivalent undisturbed pressure field.

3.3. Generally, time weightings 'S' and 'F' are valid as long as the measurement time interval is long compared with the time constant of the weighting chosen, but they are not suitable for determining $L_{Aeq,\ T_e}$ when the noise level fluctuates very rapidly.

3.4. *Indirect measurement of exposure*

The result of the direct measurement of $L_{Aeq,\ T_e}$ can be approximated with a knowledge of the exposure time and the measurement of clearly distinguishable sound-pressure-level ranges; a sampling method and a statistical distribution may be useful.

4. **Accuracy of measuring noise and determining the exposure**

The type of the instrument and the standard deviation of the results influence the accuracy of measurement. For comparison with a noise limit, the measuring accuracy determines the range of readings where no decision can be made as to whether the value is exceeded; if no decision can be taken, the measurement must be repeated with a higher accuracy.

Measurements of the highest accuracy enable a decision to be taken in all cases.

B. Short-term measurements with ordinary sonometers are quite satisfactory for workers performing, at a fixed location, repetitive activities which generate roughly the same levels of broad-band noise throughout the day. But when the sound pressure to which a worker is exposed shows fluctuations spread over a wide range of levels and/or of irregular time characteristics, determining the daily personal noise exposure of a worker becomes increasingly complex; the most accurate method of measurement is therefore to monitor exposure throughout the entire shift, using an integrating averaging sonometer.

When an integrating averaging sonometer conforming to IEC standard 804 (which is well suited for measurement of the equivalent continuous sound pressure level of impulse noise) complies at least with the specifications of type 1 and has recently been fully calibrated in a laboratory, and the microphone is properly located (see 3.2 above), the results make it possible, with certain exceptions to determine whether a given exposure has been exceeded (see 4) even in complex situations; that method is thus generally applicable, and is well suited for reference purposes.

ANNEX II

INDICATIONS FOR CHECKING WORKERS' HEARING

In the framework of checking workers' hearing the following points are taken into consideration:

1. The check should be carried out in accordance with occupational medical practice and should comprise:
   - — where appropriate, an initial examination, to be carried out before or at the beginning of exposure to noise,
   - — regular examinations at intervals which are commensurate with the seriousness of the risk and are determined by the doctor.
2. Each examination should consist of at least an otoscopy combined with an audiometric test including pure-tone airconduction threshold audiometry in accordance with 6 below.
3. The initial examination should include a medical history; the initial otoscopy and the audiometric test should be repeated within a period of 12 months.
4. The regular examination should be carried out at least every five years where the worker's daily personal noise exposure remains less than 90 dB (A).
5. The examinations should be carried out by suitably qualified persons in accordance with national law and practice and may be organized in successive stages (screening, specialist examination).
6. The audiometric test should comply with the specifications of ISO standard 6189-1983, supplemented as follows:

   Audiometry also covers the frequency of 8 000 Hz; the ambient sound level enables a hearing-threshold level equal to 0 dB in relation to ISO standard 389-1975 to be measured.

   However, other methods may be used if they give comparable results.

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II

(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DIRECTIVE

of 9 June 1988

on the protection of workers by the banning of certain specified agents and/or certain work activities (Fourth individual Directive within the meaning of Article 8 of Directive 80/1107/EEC)

(88/364/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 118 A thereof,

Having regard to the proposal from the Commission (1),

In cooperation with the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas the Council adopts, by means of Directives, minimum progressively applicable provisions, with a view towards promoting the improvement, in particular, of the working environment, so as to protect the safety and health of workers;

Whereas the Council resolution of 27 February 1984 on a second programme of action of the European Communities on safety and health at work (4) provides for the development of protective measures for substances recognized as being carcinogenic and other dangerous substances and processes which may have serious harmful effects on health;

Whereas certain differences are revealed by an examination of the measures taken by Member States to protect workers against the risks related to exposure to specified work agents and work activities; whereas, therefore, in the interest of balanced development, these measures should be harmonized and improved as progress is made; whereas this harmonization and improvement should be based on common principles;

Whereas, to this end, Council Directive 80/1107/EEC of 27 November 1980 on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work (5) contains such principles;

Whereas, under the terms of the said Directive, such protection must as far as possible be ensured by measures to prevent exposure or to keep it at as low a level as is reasonably practicable; whereas, also under these terms, for the provision of adequate protection of workers it is necessary to ban in the workplace certain specified agents and/or work activities which can give rise to serious effects on health in cases where use of other means does not make it possible to ensure adequate protection;

Whereas provision should be made in these circumstances to ban certain specified agents and/or certain work activities in the workplace, subject to certain exceptions and derogations;

Whereas representatives of employers and workers have a role to play in the protection of workers;

Whereas these principles need to be applied uniformly and speedily to encourage wherever possible the early developmet of alternative non-dangerous agents and/or work activities,

(1) OJ No C 270, 10. 10. 1984, p. 3.
(2) OJ No C 72, 18. 3. 1985, p. 131.
(3) OJ No C 104, 25. 4. 1985, p. 6.
(4) OJ No C 67, 5. 3. 1984, p. 2.

(5) OJ No L 327, 3. 12. 1980, p. 8.

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. The purpose of this Directive is to protect workers against risks to their health by means of a ban on certain specific agents and or certain work activities.

The ban which is the subject of this Directive including the Annex is based on the following factors:

— there are serious health and safety risks for workers,

— precautions are not sufficient to ensure a satisfactory level of health and safety protection for workers,

— the ban does not lead to the use of substitute products which may involve equal or greater health and safety risks for workers.

2. This Directive shall not apply to:

— sea transport,

— air transport.

3. This Directive shall not prejudice the right of Member States to apply or introduce, subject to compliance with the Treaty, laws, regulations or administrative provisions ensuring greater protection for workers.

Article 2

For the purposes of this Directive:

(a) 'substances' means chemical elements and their compounds as they occur in the natural state or as produced by industry, including any additives required for the purpose of placing them on the market;

(b) 'agents' means any chemical, physical or biological agents present at work and likely to be harmful to health;

(c) 'preparations' means mixtures or solutions composed of two or more substances;

(d) 'impurities' means substances which are *a priori* present in insignificant amounts in other substances;

(e) 'intermediates' means substances which are formed during a chemical reaction, are converted and therefore disappear by the end of the reaction or process;

(f) 'by-products' means substances which are formed during a chemical reaction and which remain at the end of the reaction or process;

(g) 'waste products' means the remains of a chemical reaction which need to be disposed of at the end of the reaction or process.

Article 3

1. To prevent the exposure of workers to health risks from certain specific agents and/or certain work activities in the cases referred to in Article 1, Member States shall impose a ban in accordance with the procedures laid down in the Annex.

2. The Council, acting by a qualified majority on a proposal from the Commission, in cooperation with the European Parliament and after consulting the Economic and Social Committee, may amend the Annex, in particular to include further agents or activities.

Article 4

In the case of the derogations provided for in the Annex, the Member States shall be obliged to ensure that employers comply with the following procedures and measures:

(a) an employer must take adequate precautions to protect the health and safety of the workers concerned; and

(b) an employer must submit at least the following information to the competent authority:

— the quantities used annually,

— the activities and/or reactions or processes involved,

— the number of workers exposed,

— the technical and organizational measures taken to prevent the exposure of workers.

In addition, the Member States may provide for systems of individual authorizations.

Article 5

1. Workers and/or their representatives in undertakings or establishments shall have access, in accordance with national law, to the documents submitted pursuant to Article 4 in regard to their undertaking or establishment.

2. The documents referred to in paragraph 1 shall contain the information necessary to ensure that workers and/or their representatives in undertakings or establishments are made fully aware of the health and safety risks connected with the agent or work activity to which they are or are likely to be exposed, together with the measures to be taken against such risks.

Article 6

1. Before 1 January 1995 the Commission shall submit to the European Parliament, the Council and the Economic and Social Committee a report concerning in particular experience gained in the application of this Directive and progress in scientific knowledge and technology.

2. The Council shall re-examine this Directive before 1 January 1996 on the basis of the report referred to in paragraph 1.

Article 7

1. Member States shall adopt the laws, regulations and administrative provisions necessary to comply with this Directive by 1 January 1990 at the latest. They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the provisions of national law which they adopt in the field governed by this Directive.

Article 8

This Directive is addressed to the Member States.

Done at Luxembourg, 9 June 1988.

For the Council

The President

N. BLUM

ANNEX

1. Subject to the conditions listed below, the following may not be produced or used:

— 2-naphtylamine and its salts	(CAS No 91-59-8),
— 4-aminobiphenyl and its salts	(CAS No 92-67-1),
— benzidine and its salts	(CAS No 92-87-5),
— 4-nitrodiphenyl	(CAS No 92-93-3).

2. This ban does not apply if the agents are present in a substance or a preparation in the form of impurities or by-products, or as a constituent of waste products, provided that their individual concentration therein is less than 0,1 % w/w.

3. Derogations from point 1 laid down by the Member States shall only be permitted:

— for the sole purpose of scientific research and testing, including analysis,

— for work activities intended to eliminate the agents that are present in the form of by-products or waste products,

— for the production of the substances referred to in paragraph 1 for use as intermediates, and for such use.

4. The exposure of workers to the substances referred to in paragraph 1 must be prevented, in particular by providing that the production and earliest possible use of these substances as intermediates must take place in a single closed system, from which the aforesaid substances may be removed only to the extent necessary to monitor the process or serivce the system.

26. 7. 90 Official Journal of the European Communities No L 196/1

II

(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DIRECTIVE

of 28 June 1990

on the protection of workers from the risks related to exposure to carcinogens at work (Sixth individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC)

(90/394/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 118a thereof,

Having regard to the proposal from the Commission (1), drawn up following consultation with the Advisory Committee on Safety, Hygiene and Health Protection at Work,

In cooperation with the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas Article 118a of the Treaty provides that the Council is to adopt, by means of Directives, minimum requirements in order to encourage improvements, especially in the working environment, so as to guarantee better protection of the health and safety of workers;

Whereas, according to that Article, such directives must avoid imposing administrative, financial and legal constraint in a way which would hold back the creation and development of small and medium-sized undertakings;

Whereas the Council resolution of 27 February 1984 on a second action programme of the European Communities on safety and health at work (4) provides for the development of protective measures for workers exposed to carcinogens;

Whereas the Commission communication on its programme concerning safety, hygiene and health at work (5) provides for the adoption of Directives to guarantee the health and safety of workers;

Whereas compliance with the minimum requirements designed to guarantee a better standard of health and safety as regards the protection of workers from the risks related to exposure to carcinogens at work is essential to ensure the health and safety of workers;

Whereas this Directive is an individual Directive within the meaning of Article 16 (1) of Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the health and safety of workers at work (6); whereas therefore the provisions of that Directive are fully applicable to the exposure of workers to carcinogens, without prejudice to more stringent and/or specific provisions contained in this Directive;

Whereas Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (7), as last amended by Directive 88/490/EEC (8), contains a list of dangerous substances, together with particulars on the classification and labelling procedures in respect of each substance;

Whereas Council Directive 88/379/EEC of 7 June 1988 on the approximation of the laws, regulations and

(1) OJ No C 34, 8. 2. 1988, p. 9.
(2) OJ No C 158, 26. 6. 1989, p. 121 and OJ No C 149, 18. 6. 1990.
(3) OJ No C 208, 8. 8. 1988, p. 43.
(4) OJ No C 67, 8. 3. 1984, p. 2.
(5) OJ No C 28, 3. 2. 1988, p. 1.
(6) OJ No L 183, 29. 6. 1989, p. 1.
(7) OJ No 196, 16. 8. 1967, p. 1.
(8) OJ No L 259, 19. 9. 1988, p. 1.

administrative provisions relating to the classification, packaging and labelling of dangerous preparations (1), as last amended by Directive 89/178/EEC (2), contains particulars on the classification and labelling procedures in respect of such preparations;

Whereas the plan of action 1987 to 1989 adopted under the 'Europe against cancer' programme provides for support for European studies on the possible cancer risks of certain chemical substances;

Whereas, although current scientific knowledge is not such that a level can be established below which risks to health cease to exist, a reduction in exposure to carcinogens will nonetheless reduce those risks;

Whereas nevertheless, in order to contribute to a reduction in these risks, limit values and other directly related provisions should be established for all those carcinogens for which the available information, including scientific and technical data, make this possible;

Whereas preventive measures must be taken for the protection of the health and safety of workers exposed to carcinogens;

Whereas this Directive lays down particular requirements specific to exposure to carcinogens;

Whereas this Directive constitutes a practical aspect of the realization of the social dimension of the internal market;

Whereas, pursuant to Decision 74/325/EEC (3), as last amended by the 1985 Act of Accession, the Advisory Committee on Safety, Hygiene and Health Protection at Work is to be consulted by the Commission with a view to drawing up proposals in this field,

HAS ADOPTED THIS DIRECTIVE:

SECTION I

GENERAL PROVISIONS

Article 1

Objective

1. This Directive, which is the sixth individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC, has as its aim the protection of workers against risks to their health and safety, including the prevention of such risks, arising or likely to arise from exposure to carcinogens at work.

It lays down particular minimum requirements in this area, including limit values.

2. This Directive shall not apply to workers exposed only to radiation covered by the Treaty establishing the European Atomic Energy Community.

3. Directive 89/391/EEC shall apply fully to the whole area referred to in paragraph 1, without prejudice to more stringent and/or specific provisions contained in this Directive.

Article 2

Definition

For the purposes of this Directive, 'carcinogen' means:

(a) a substance to which, in Annex I to Directive 67/548/EEC, the risk-phrase R 45 'may cause cancer' is applied;

(b) a preparation which, under Article 3 (5) (j) of Directive 88/379/EEC, must be labelled as R 45 'may cause cancer';

(c) a substance, a preparation or a process referred to in Annex I as well as a substance or preparation released by a process referred to in Annex I.

Article 3

Scope — determination and assessment of risks

1. This Directive shall apply to activities in which workers are or are likely to be exposed to carcinogens as a result of their work.

2. In the case of any activity likely to involve a risk of exposure to carcinogens, the nature, degree and duration of workers' exposure must be determined in order to make it possible to assess any risk to the workers' health or safety and to lay down the measures to be taken.

The assessment must be renewed regularly and in any event when any change occurs in the conditions which may affect workers' exposure to carcinogens.

The employer must supply the authorities responsible at their request with the information used for making the assessment.

3. Furthermore, when assessing the risk, account shall be taken of all other cases of major exposure, such as those with harmful effects on the skin.

4. When the assessment referred to in paragraph 2 is carried out, employers shall give particular attention to any effects concerning the health or safety of workers at

(1) OJ No L 187, 16. 7. 1988, p. 14.
(2) OJ No L 64, 8. 3. 1989, p. 18.
(3) OJ No L 185, 9. 7. 1974, p. 15.

particular risk and shall, *inter alia*, take account of the desirability of not employing such workers in areas where they may come into contact with carcinogens.

SECTION II

EMPLOYERS' OBLIGATIONS

Article 4

Reduction and replacement

1. The employer shall reduce the use of a carcinogen at the place of work, in particular by replacing it, in so far as is technically possible, by a substance, preparation or process which, under its conditions of use, is not dangerous or is less dangerous to workers' health or safety, as the case may be.

2. The employer shall, upon request, submit the findings of his investigations to the relevant authorities.

Article 5

Prevention and reduction of exposure

1. Where the results of the assessment referred to in Article 3 (2) reveal a risk to workers' health or safety, workers' exposure must be prevented.

2. Where it is not technically possible to replace the carcinogen by a substance, preparation or process which, under its conditions of use, is not dangerous or is less dangerous to health or safety, the employer shall ensure that the carcinogen is, in so far as is technically possible, manufactured and used in a closed system.

3. Where a closed system is not technically possible, the employer shall ensure that the level of exposure of workers is reduced to as low a level as is technically possible.

4. Wherever a carcinogen is used, the employer shall apply all the following measures:

(a) limitation of the quantities of a carcinogen at the place of work;

(b) keeping as low as possible the number of workers exposed or likely to be exposed;

(c) design of work processes and engineering control measures so as to avoid or minimize the release of carcinogens into the place of work;

(d) evacuation of carcinogens at source, local extraction system or general ventilation, all such methods to be appropriate and compatible with the need to protect public health and the environment;

(e) use of existing appropriate procedures for the measurement of carcinogens, in particular for the early detection of abnormal exposures resulting from an unforeseeable event or an accident;

(f) application of suitable working procedures and methods;

(g) collective protection measures and/or, where exposure cannot be avoided by other means, individual protection measures;

(h) hygiene measures, in particular regular cleaning of floors, walls and other surfaces;

(i) information for workers;

(j) demarcation of risk areas and use of adequate warning and safety signs including 'no smoking' signs in areas where workers are exposed or likely to be exposed to carcinogens;

(k) drawing up plans to deal with emergencies likely to result in abnormally high exposure;

(l) means for safe storage, handling and transportation, in particular by using sealed and clearly and visibly labelled containers;

(m) means for safe collection, storage and disposal of waste by workers, including the use of sealed and clearly and visibly labelled containers.

Article 6

Information for the competent authority

Where the results of the assessment referred to in Article 3 (2) reveal a risk to workers' health or safety, employers shall, when requested, make available to the competent authority appropriate information on:

(a) the activities and/or industrial processes carried out, including the reasons for which carcinogens are used;

(b) the quantities of substances or preparations manufactured or used which contain carcinogens;

(c) the number of workers exposed;

(d) the preventive measures taken;

(e) the type of protective equipment used;

(f) the nature and degree of exposure;

(g) the cases of replacement.

Article 7

Unforeseen exposure

1. In the event of an unforeseeable event or an accident which is likely to result in an abnormal exposure of workers, the employer shall inform the workers thereof.

2. Until the situation has been restored to normal and the causes of the abnormal exposure have been eliminated:

(a) only those workers who are essential to the carrying out of repairs and other necessary work shall be permitted to work in the affected area;

(b) the workers concerned shall be provided with protective clothing and individual respiratory protection equipment which they must wear; the exposure may not be permanent and shall be kept to the strict minimum of time necessary for each worker;

(c) unprotected workers shall not be allowed to work in the affected area.

Article 8

Foreseeable exposure

1. For certain activities such as maintenance, in respect of which it is foreseeable that there is the potential for a significant increase in exposure of workers, and in respect of which all scope for further technical preventive measures for limiting workers' exposure has already been exhausted, the employer shall determine, after consultation of the workers and/or their representatives in the undertaking or establishment, without prejudice to the employer's responsibility, the measures necessary to reduce the duration of workers' exposure to the minimum possible and to ensure protection of workers while they are engaged in such activities.

Pursuant to the first subparagraph, the workers concerned shall be provided with protective clothing and individual respiratory protection equipment which they must wear as long as the abnormal exposure persists; that exposure may not be permanent and shall be kept to the strict minimum of time necessary for each worker.

2. Appropriate measures shall be taken to ensure that the areas in which the activities referred to in the first subparagraph of paragraph 1 take place are clearly demarcated and indicated or that unauthorized persons are prevented by other means from having access to such areas.

Article 9

Access to risk areas

Appropriate measures shall be taken by employers to ensure that access to areas in which the activities in respect of which the results of the assessment referred to in Article 3 (2) reveal a risk to workers' safety or health take place are accessible solely to workers who, by reason of their work or duties, are required to enter them.

Article 10

Hygiene and individual protection

1. Employers shall be obliged, in the case of all activities for which there is a risk of contamination by carcinogens, to take appropriate measures to ensure that:

(a) workers do not eat, drink or smoke in working areas where there is a risk of contamination by carcinogens;

(b) workers are provided with appropriate protective clothing or other appropriate special clothing;

separate storage places are provided for working or protective clothing and for street clothes;

(c) workers are provided with appropriate and adequate washing and toilet facilities;

(d) protective equipment is properly stored in a well-defined place;

it is checked and cleaned if possible before, and in any case after, each use;

defective equipment is repaired or replaced before further use.

2. Workers may not be charged for the cost of these measures.

Article 11

Information and training of workers

1. Appropriate measures shall be taken by the employer to ensure that workers and/or workers' representatives in the undertaking or establishment receive sufficient and appropriate training, on the basis of all available information, in particular in the form of information and instructions, concerning:

(a) potential risks to health, including the additional risks due to tobacco consumption;

(b) precautions to be taken to prevent exposure;

(c) hygiene requirements;

(d) wearing and use of protective equipment and clothing;

(e) steps to be taken by workers, including rescue workers, in the case of incidents and to prevent incidents.

The training shall be:

— adapted to take account of new or changed risk, and

— repeated periodically if necessary.

2. Employers shall inform workers of installations and related containers containing carcinogens, ensure that all containers, packages and installations containing carcinogens are labelled clearly and legibly, and display clearly visible warning and hazard signs.

Article 12

Information for workers

Appropriate measures shall be taken to ensure that:

(a) workers and/or any workers' representatives in the undertaking or establishment can check that this Directive is applied or can be involved in its application, in particular with regard to:

(i) the consequences for workers' safety and health of the selection, wearing and use of protective clothing and equipment, without prejudice to the employer's responsibility for determining the effectiveness of protective clothing and equipment;

(ii) the measures determined by the employer which are referred to in the first subparagraph of Article 8 (1), without prejudice to the employer's responsibility for determining such measures;

(b) workers and/or any workers' representatives in the undertaking or establishment are informed as quickly as possible of abnormal exposures, including those referred to in Article 8, of the causes thereof and of the measures taken or to be taken to rectify the situation;

(c) the employer keeps an up-to-date list of the workers engaged in the activities in respect of which the results of the assessment referred to in Article 3 (2) reveal a risk to workers' health or safety, indicating, if the information is available, the exposure to which they have been subjected;

(d) the doctor and/or the competent authority as well as all other persons who have responsibility for health and safety at work have access to the list referred to in subparagraph (c);

(e) each worker has access to the information on the list which relates to him personally;

(f) workers and/or any workers' representatives in the undertaking or establishment have access to anonymous collective information.

Article 13

Consultation and participation of workers

Consultation and participation of workers and/or their representatives in connection with matters covered by this Directive, including the Annexes hereto, shall take place in accordance with Article 11 of Directive 89/391/EEC.

SECTION III

MISCELLANEOUS PROVISIONS

Article 14

Health surveillance

1. The Member States shall establish, in accordance with national laws and/or practice, arrangements for carrying out relevant health surveillance of workers for whom the results of the assessment referred to in Article 3 (2) reveal a risk to health or safety.

2. The arrangements referred to in paragraph 1 shall be such that each worker shall be able to undergo, if appropriate, relevant health surveillance:

— prior to exposure,

— at regular intervals thereafter.

Those arrangements shall be such that it is directly possible to implement individual and occupational hygiene measures.

3. If a worker is found to be suffering from an abnormality which is suspected to be the result of exposure to carcinogens, the doctor or authority responsible for the health surveillance of workers may require other workers who have been similarly exposed to undergo health surveillance.

In that event, a reassessment of the risk of exposure shall be carried out in accordance with Article 3 (2).

4. In cases where health surveillance is carried out, an individual medical record shall be kept and the doctor or authority responsible for health surveillance shall propose any protective or preventive measures to be taken in respect of any individual workers.

5. Information and advice must be given to workers regarding any health surveillance which they may undergo following the end of exposure.

6. In accordance with national laws and/or practice:

— workers shall have access to the results of the health surveillance which concern them, and

— the workers concerned or the employer may request a review of the results of the health surveillance.

7. Practical recommendations for the health surveillance of workers are given in Annex II.

8. All cases of cancer identified in accordance with national laws and/or practice as resulting from occupational exposure to a carcinogen shall be notified to the competent authority.

Article 15

Record-keeping

1. The list referred to in Article 12 (c) and the medical record referred to in Article 14 (4) shall be kept for at least 40 years following the end of exposure, in accordance with national laws and/or practice.

2. Those documents shall be made available to the responsible authority in cases where the undertaking ceases activity, in accordance with national laws and/or practice.

Article 16

Limit values

1. The Council shall, in accordance with the procedure laid down in Article 118a of the Treaty, set out limit values in Directives on the basis of the available information, including scientific and technical data, in respect of all those carcinogens for which this is possible, and, where necessary, other directly related provisions.

2. Limit values and other directly related provisions shall be set out in Annex III.

Article 17

Annexes

1. Annexes I and III may be amended in accordance only with the procedure laid down in Article 118a of the Treaty.

2. Purely technical adjustments to Annex II in the light of technical progress, changes in international regulations or specifications and new findings in the field of carcinogens shall be adopted in accordance with the procedure laid down in Article 17 of Directive 89/391/EEC.

Article 18

Use of data

The Commission shall have access to the use made by the competent national authorities of the information referred to in Article 14 (8).

Article 19

Final provisions

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive not later than 31 December 1992.

Should Directives 67/548/EEC or 88/379/EEC be amended by amending Directives after notification of this Directive with respect to the substances and preparations referred to in Article 2 (a) and (b), Member States shall bring into force the laws, regulations and administrative provisions necessary to introduce the amendments in question into the provisions referred to in the first subparagraph by the deadlines laid down for implementation of such amending Directives.

Member States shall forthwith inform the Commission that the provisions referred to in this paragraph have been brought into force.

2. Member States shall communicate to the Commission the provisions of national law already adopted or which they adopt in the future in the field governed by this Directive.

Article 20

This Directive is addressed to the Member States.

Done at Luxembourg, 28 June 1990.

For the Council

The President

M. GEOGHEGAN-QUINN

ANNEX I

List of substances, preparations and processes

(Article 2 (c))

1. Manufacture of auramine.
2. Work involving exposure to aromatic polycyclic hydrocarbons present in coal soots, tar, pitch, fumes or dust.
3. Work involving exposure to dusts, fumes and sprays produced during the roasting and electro-refining of cupro-nickel mattes.
4. Strong acid process in the manufacture of isopropyl alcohol.

ANNEX II

Practical recommendations for the health surveillance of workers

(Article 14 (7))

1. The doctor and/or authority responsible for the health monitoring of workers exposed to carcinogens must be familiar with the exposure conditions or circumstances of each worker.
2. Health monitoring of workers must be carried out in accordance with the principles and practices of occupational medicine; it must include at least the following measures:

   — keeping records of a worker's medical and occupational history,

   — a personal interview,

   — where appropriate, biological monitoring, as well as detection of early and reversible effects.

   Further tests may be decided upon for each worker when he is the subject of health monitoring, in the light of the most recent knowledge available to occupational medicine.

ANNEX III

Limit values and other directly related provisions

(Article 16)

A. Limit values

p.m.

B. Other directly related provisions

p.m.

II

(Acts whose publication is not obligatory)

COMMISSION

COMMISSION RECOMMENDATION

of 22 May 1990

to the Member States concerning the adoption of a European schedule of occupational diseases

(90/326/EEC)

The Commission, under the terms of the Treaty establishing the European Economic Community and in particular Article 155 thereof, and without prejudice to more favourable national laws or regulations, recommends that the Member States :

1. introduce as soon as possible into their national laws, regulations or administrative provisions concerning scientifically recognized occupational diseases liable for compensation and subject to preventive measures, the European schedule in Annex I ;

2. take steps to introduce into their national laws, regulations or administrative provisions the right of a worker to compensation in respect of occupational diseases if the worker is suffering from an ailment which is not listed in Annex I but which can be proved to be occupational in origin and nature, particularly if the ailment is listed in Annex II ;

3. ensure as far as possible that all cases of occupational disease are reported and progressively make their statistics on occupational diseases compatible with the schedule in Annex I ;

4. — develop and improve the various preventive measures for the diseases mentioned in the European schedule, turning, if necessary, to the Commission for information on the experience acquired by Member States,
   — use for this purpose the European schedule as a reference document on the prevention of occupational diseases and certain work accidents ;

5. — circulate notices on the occupational diseases in their national list, taking special account of the medical information notices on occupational diseases in the European schedule, drawn up by the Commission,
   — supply in particular all relevant information on diseases or agents recognized in their national legislation when requested to do so by another Member State through the Commission, and supply the Commission with statistical and epidemiological information on the incidence of occupational diseases ;

6. Provide the personnel responsible for implementing the national provisions resulting from this recommendation with adequate training ;

7. — introduce a system for the collection of information on data concerning the epidemiology of the diseases listed in Annex II and any other disease of an occupational nature,
   — promote research in the field of ailments linked to an occupational activity, in particular the ailments listed in Annex II.

This recommendation shall not apply to diseases which are not recognized as being occupational in origin.

The Member States shall themselves determine the criteria for recognizing each occupational disease in accordance with their current national laws or practices.

The Commission requests the Member States to inform it, at the end of a three-year period, of the measures taken or envisaged in response to this recommendation. The Commission will then examine the extent to which this recommendation has been implemented in the Member States, in order to determine whether there is a need for binding legislation.

Done at Brussels, 22 May 1990.

For the Commission

Vasso PAPANDREOU

Member of the Commission

ANNEX I

EUROPEAN SCHEDULE OF OCCUPATIONAL DISEASES

The diseases mentioned in this schedule must be linked directly to the occupation. The Commission will determine the criteria for recognizing each of the occupational diseases listed hereunder:

1. **Diseases caused by the following chemical agents:**

		EEC No
100	Acrylonitrile	608 003 004
101	Arsenic or compounds thereof	033 002 005
102	Beryllium (glucinium) or compounds thereof	—
103.01	Carbon monoxide	006 001 002
103.02	Carbon oxychloride	—
104.01	Hydrocyanic acid	—
104.02	Cyanides and compounds thereof	006 007 005
104.03	Isocyanates	—
105	Cadmium or compounds thereof	048 001 005
106	Chromium or compounds thereof	—
107	Mercury or compounds thereof	080 001 000
108	Manganese or compounds thereof	—
109.01	Nitric acid	007 004 001
109.02	Oxides of nitrogen	007 002 000
109.03	Ammonia	007 001 005
110	Nickel or compounds thereof	—
111	Phosphorus or compounds thereof	015 001 001
112	Lead or compounds thereof	082 001 006
113.01	Oxides of sulphur	—
113.02	Sulphuric acid	016 020 008
113.03	Carbon disulphide	006 003 003
114	Vanadium or compounds thereof	—
115.01	Chlorine	017 001 007
115.02	Bromine	—
115.04	Iodine	602 005 003
115.05	Fluorine or compounds thereof	009 001 000
116	Aliphatic or alicyclic hydrocarbons derived from petroleum spirit or petrol	—
117	Halogenated derivatives of the aliphathic or alicyclic hydrocarbons	—
118	Butyl, methyl and isopropyl alcohol	—
119	Ethylene glycol, diethylene glycol, 1,4-butanediol and the nitrated derivatives of the glycols and of glycerol	—
120	Methyl ether, ethyl ether, isopropyl ether, vinyl ether, dichloroisopropyl ether, guaiacol, methyl ether and ethyl of ethylene glycol	—
121	Acetone, chloroacetone, bromoacetone, hexafluoroacetone, methyl ethyl ketone, methyl n-butyl ketone, methyl isobutyl ketone, diacetone alcohol, mesityl oxide, 2-methylcyclohexanone	—
122	Organophosphorus esters	—
123	Organic acids	—
124	Formaldehyde	—
125	Aliphatic nitrated derivatives	—
126.01	Benzene or counterparts thereof (the counterparts of benzene are defined by the formula: C_nH_{2n-6})	601 020 008
126.02	Naphthalene or naphthalene counterparts (the counterpart of naphthalene is defined by the formula: C_nH_{2n-12})	—
126.03	Vinylbenzene and divinylbenzene	—
127	Halogenated derivatives of the aromatic hydrocarbons	—

		EEC No
128.01	Phenols or counterparts or halogenated derivatives thereof	—
128.02	Naphthols or counterparts or halogenated derivatives thereof	—
128.03	Halogenated derivatives of the alkylaryl oxides	—
128.04	Halogenated derivatives of the alkylaryl sulfonates	—
128.05	Benzoquinones	—
129.01	Aromatic amines or aromatic hydrazines or halogenated, phenolic, nitrified, nitrated or sulfonated derivatives thereof	—
129.02	Aliphatic amines and halogenated derivatives thereof	—
130.01	Nitrated derivatives of aromatic hydrocarbons	—
130.02	Nitrated derivatives of phenols or their counterparts	—
131	Antimony and derivatives thereof	051 003 009
2.	**Skin diseases caused by substances and agents not included under other headings**	
201	*Skin diseases and skin cancers caused by:*	
201.01	Soot	
201.02	Tar	
201.03	Bitumen	
201.04	Pitch	
201.05	Anthracene or compounds thereof	—
201.06	Mineral and other oils	
201.07	Crude paraffin	
201.08	Carbazole or compounds thereof	—
201.09	By-products of the distillation of coal	
202	Occupational skin ailments caused by scientifically recognized allergy provoking or irritative substances not included under other headings	
3.	**Diseases caused by the inhalation of substances and agents not included under other headings**	
301	*Diseases of the respiratory system and cancers:*	
301.11	Silicosis	
301.12	Silicosis combined with pulmonary tuberculosis	
301.21	Asbestosis	
301.22	Mesothelioma following the inhalation of asbestos dust	
301.31	Pneumoconioses caused by dusts of silicates	
302	Complication of asbestos in the form of bronchial cancer	
303	Broncho-pulmonary ailments caused by dusts from sintered metals	
304.01	Extrinsic allergic alveolites	
304.02	Lung diseases caused by the inhalation of dusts and fibres from cotton, flax, hemp, jute, sisal and bagasse	
304.03	Respiratory ailments of an allergic nature caused by the inhalation of substances consistently recognized as causing allergies and inherent to the type of work	
304.04	Respiratory ailments caused by the inhalation of dust from cobalt, tin, barium and graphite	
304.05	Siderosis	
305.01	Cancerous diseases of the upper respiratory tract caused by dust from wood	
4.	**Infectious and parasitic diseases:**	
401	Infectious or parasitic diseases transmitted to man by animals or remains of animals	
402	Tetanus	
403	Brucellosis	
404	Viral hepatitis	
405	Tuberculosis	
406	Amoebiasis	
5.	**Diseases caused by the following physical agents:**	
502.01	Cataracts caused by heat radiation	
502.02	Conjunctival ailments following exposure to ultraviolet radiation	
503	Hypoacousis or deafness caused by noise	
504	Diseases caused by atmospheric compression or decompression	

505.01	Osteoarticular diseases of the hands and wrists caused by mechanical vibration
505.02	Angioneurotic diseases caused by mechanical vibration
506.10	Diseases of the periarticular sacs due to pressure
506.21	Diseases due to overstraining of the tendon sheaths
506.22	Diseases due to overstraining of the peritendineum
506.23	Diseases due to overstraining of the muscular and tendonous insertions
506.30	Meniscus lesions following extended periods of work in a kneeling or squatting position
506.40	Paralysis of the nerves due to pressure
507	Miner's nystagmus
508	Diseases caused by ionizing radiation

ANNEX II

ADDITIONAL LIST OF DISEASES SUSPECTED OF BEING OCCUPATIONAL IN ORIGIN WHICH SHOULD BE SUBJECT TO NOTIFICATION AND WHICH MAY BE CONSIDERED AT A LATER STAGE FOR INCLUSION IN ANNEX 1 TO THE EUROPEAN SCHEDULE

2.1.	**Diseases caused by the following chemical agents:**	
		EEC No
2.101	Ozone	—
2.102	Aliphatic hydrocarbons other than those referred to under heading 1.116 of Annex I	—
2.103	Diphenyl	—
2.104	Decalin	—
2.105	Aromatic acids — aromatic anhydrides	—
2.106	Diphenyl oxide	—
2.107	Tetrahydrofurane	603 025 000
2.108	Thiopene	—
2.109	Methacrylonitrile	608 001 003
	Acetonitrile	—
2.110	Hydrogen sulphide	016 001 004
2.111	Thioalcohols	—
2.112	Mercaptans and thioethers	—
2.113	Thallium or compounds thereof	081 002 009
2.114	Alcohols or their halogenated derivatives not referred to under heading 1.118 of Annex I	—
2.115	Glycols or their halogenated derivatives not referred to under heading 1.119 of Annex I	—
2.116	Ethers or their halogenated derivatives not referred to under heading 1.120 of Annex I	—
2.117	Ketones or their halogenated derivatives not referred to under heading 1.121 of Annex I	—
2.118	Esters or their halogenated derivatives not referred to under heading 1.122 of Annex I	—
2.119	Furfural	605 010 004
2.120	Thiophenols or counterparts or halogenated derivatives thereof	—
2.121	Silver	—
2.122	Selenium	034 002 008
2.123	Copper	—
2.124	Zinc	—
2.125	Magnesium	—
2.126	Platinum	—
2.127	Tantalum	—
2.128	Titanium	—
2.129	Terpenes	—
2.130	Boranes	—
2.140	Diseases caused by inhaling nacre dust	
2.141	Diseases caused by hormonal substances	
2.150	Dental caries associated with work in the chocolate, sugar and flour industries	
2.2.	**Skin diseases caused by substances and agents not included under other headings:**	
2.201	Allergic and orthoallergic skin ailments not recognized in Annex I	
2.3.	**Diseases caused by inhaling substances not included under other headings:**	
2.301	Pulmonary fibroses due to metals not included in the European schedule	
2.302	Broncho-pulmonary ailments caused by dusts or fumes from aluminium or compounds thereof	

2.303	Broncho-pulmonary ailments and cancers associated with exposure to the following : — soot, — tar, — bitumen, — pitch, — anthracene or compounds thereof, — mineral and other oils
2.304	Broncho-pulmonary ailments caused by man-made mineral fibres
2.305	Broncho-pulmonary ailments caused by synthetic fibres
2.306	Broncho-pulmonary ailments caused by dusts from basic slags
2.4.	**Infectious and parasitic diseases not described in Annex I :**
2.401	Parasitic diseases
2.402	Tropical diseases
2.403	Infectious diseases, not included in Annex I, of workers engaged in disease prevention, health care, domiciliary assistance or laboratory work and other activities where a risk of infection exists
2.5.	**Avulsion due to overstraining of the spinous processes**

ANNEX III

THE SITUATION IN THE MEMBER STATES

This Annex was adopted in 1989 and is for guidance only, as the situation is in constant development. It will be updated when the Commission presents its report on the impact of the present recommendation in accordance with Item 4 of the explanatory memorandum.

1. Belgium

Belgium has a list of occupational diseases carrying entitlement to compensation.

The occupational diseases are broken down into the following categories:

1. caused by chemical agents;
2. caused by physical agents;
3. caused by biological agents;
4. of the skin due to various causes;
5. of the respiratory tract due to various causes.

Furthermore, Belgium has lists of "occupational" diseases not carrying entitlement to compensation, but which are now being studied with a view to possible inclusion in the list of occupational diseases carrying entitlement to compensation.

The mixed system of compensation is not used in Belgium.

2. Denmark

The list of occupational diseases contains seven categories:

1. occupational diseases caused by chemical agents (Category A);
2. occupational diseases of the skin caused by substances or agents which do not come under other headings (Category B);
3. occupational diseases caused by the inhalation of substances or agents which do not come under other headings (Category C);
4. infectious or parasitic occupational diseases (Category D);
5. occupational diseases caused by physical agents (Category E);
6. initial stages of malignant aliments caused by organic compounds (Category F);
7. dental or periodontal diseases (Category G).

The mixed system of compensation is used.

3. Federal Republic of Germany

The list of occupational diseases carrying entitlement to compensation contains six categories:

1. diseases caused by chemical agents;
2. diseases caused by physical agents;
3. diseases caused by biological agents;
4. respiratory tract and lung diseases;
5. skin diseases;
6. diseases not covered in the above.

Total: 59 occupational diseases carrying entitlement to compensation.

A mixed system is used on the basis of specific conditions governing compensation.

4. Greece

The list of occupational diseases carrying entitlement to compensation contains five categories:

1. (a) poisoning and allergies caused by 13 listed chemical substances;
   (b) skin diseases caused by chromium and cement;
2. parasitic and contagious diseases;
3. (a) diseases caused by physical agents;
   (b) miners' diseases;
4. skin diseases;
5. lung diseases.

Total: 52 occupational diseases carrying entitlement to compensation.

The mixed system of compensation is not used.

5. **Spain**

The list of occupational diseases carrying entitlement to compensation contains six categories:

— diseases caused by chemical agents,

— diseases of the skin caused by agents which do not come under other headings:

— skin cancers,

— other skin diseases of occupational origin,

— pneumoconioses,

— infectious and parasitic diseases,

— diseases caused by physical agents,

— diseases not classifiable under other headings.

Total: 71 occupational diseases carrying entitlement to compensation.

The mixed system is not used.

6. **France**

For the general scheme for employees, there are 91 occupational disease tables, which are not broken down by the agents responsible but by disease families and the products or agents responsible. Compensation for occupational diseases is on a flat-rate basis, but employees are given the benefit of the assumption that their disease is attributable to work if it meets the conditions set out in each table (symptoms of the disease, products or agents, period required for recognition, work involving exposure, and occasionally duration of exposure).

There is a mixed system for recognition and compensation in the case of pneumoconioses, with the procedure involving an approved doctor or a board of three specialists.

A claim for compensation (not limited to a flat-rate) can be made in respect of any disease not covered by the tables by invoking the liability of the employer.

There is also a schedule for occupational diseases containing 47 tables for farmers and farm employees. It effectively corresponds largely to the first schedule, but with special features owing to the particular nature of the risks covered.

A total of 300 symptoms or groups of symptoms carry entitlement to compensation under the general scheme for employees and nearly the same number is covered by the farm scheme. New tables are established or the existing ones are revised when it is found, as a result of epidemiological study, that a new type of disease is, almost certainly, occupationally induced. Furthermore, consideration is being given to the extension of the mixed system.

7. **Ireland**

The classification of occupational diseases is divided into four categories (A, B, C and D):

A: diseases caused by physical agents (14 diseases),

B: diseases caused by biological agents (10 diseases),

C: diseases caused by chemical agents (29 diseases),

D: diseases with various causes other than those above (three diseases).

Total: 56 occupational diseases carrying entitlement to compensation; seven further occupational diseases have carried entitlement to compensation since 1985.

A mixed system of compensation exists only for certain respiratory diseases, including certain pneumoconioses, respiratory and skin diseases.

8. **Italy**

There are two lists of occupational diseases:

— one list covering occupational diseases in industry,

— one list covering occupational diseases in agriculture.

The first list contains 49 headings carrying entitlement to compensation not classified by agents responsible.

The second list contains 21 occupational diseases in agriculture carrying entitlement to compensation not classified by agents responsible.

Total: 70 occupational diseases carrying entitlement to compensation.

The system of compensation is currently being amended.

9. **Luxembourg**

The list of occupational diseases carrying entitlement to compensation contains six categories:

1. diseases caused by chemical agents;

2. diseases caused by physical agents;

3. diseases caused by biological agents;

4. respiratory tract and lung diseases (including pneumoconioses);

5. skin diseases;

6. diseases covered in the above.

Total: 55 occupational diseases carrying entitlement to compensation.

The mixed system is used on the basis of specific conditions governing compensation.

10. **Netherlands**

In the Netherlands the European Schedule of Occupational Diseases is used as a basic reference document for the diagnosis, reporting and registration of occupational diseases, provided, however, that there is a cause-and-effect link between the disease and the occupational activity. Under the Dutch social security system all cases of disease or incapacity for work give rise to compensation, regardless of the cause.

The form this compensation takes does not depend on whether the disease is occupational in origin or not.

11. **Portugal**

There are two groups of occupational diseases:

(a) The diseases contained in a list published by the relevant Ministry, which is based on the French list and contains 89 tables of diseases giving the causal agent, the type of disease caused, the recognition period and a list of the main activities responsible. These occupational diseases are divided into seven categories:

1. poisoning;
2. lung ailments;
3. dermatoses;
4. diseases caused by physical agents;
5. diseases caused by biological agents;
6. tumours;
7. mucous membrane allergies.

(b) Injuries, functional disorders or diseases not included in the above list for which no compensation will be obtained unless a link is established between the activity carried out by the worker and the ailment caused (mixed system).

12. **United Kingdom**

The list of occupational diseases contains four categories (A, B, C and D):

A: diseases caused by physical agents (11 diseases);

B: diseases caused by biological agents (nine diseases);

C: diseases caused by chemical agents (29 diseases);

D: diseases with various causes which do not come under the above categories (10 diseases).

Total: 59 occupational diseases carrying entitlement to compensation.

There is no mixed system of compensation, except in the case of industrial accidents and certain specific diseases.

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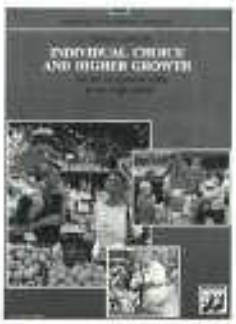

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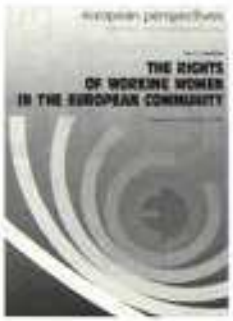

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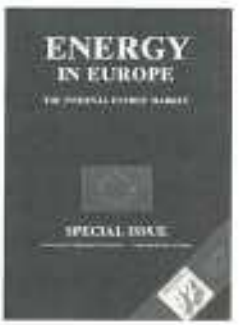

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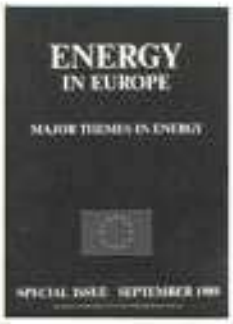

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