# ANNEX

## MINIMUM SAFETY AND HEALTH REQUIREMENTS AS REFERRED TO IN ARTICLE 10 OF THE DIRECTIVE

Preliminary note

The obligations laid down in this Annex apply whenever required by the features of the workplace, the activity, the circumstances or a specific risk.

## PART A

## COMMON MINIMUM REQUIREMENTS APPLICABLE TO SURFACE AND UNDERGROUND MINERAL-EXTRACTING INDUSTRIES AND TO ANCILLARY SURFACE INSTALLATIONS

1. Supervision and organization

1.1. Organization of workplaces

1.1.1. Workplaces must be so organized as to provide adequate protection against hazards. They must be kept in good order, with any hazardous substances or deposits removed or controlled in order not to endanger the health and safety of workers.

1.1.2. Workstations must be designed and constructed according to ergonomic principles taking into account the need for workers to be able to follow operations taking place at their workstations.

1.1.3. Where workstations are occupied by lone workers, adequate supervision or means of communication must be provided.

1.2. Person in charge

A responsible person who has the skills and competence required for this duty, in accordance with the national laws and/or practices, and who has been appointed by the employer, must at all times be in charge of every workplace when workers are present.

The employer may personally assume responsibility for the workplace as referred to in the first subparagraph, if he has the skills and competence required for the purpose, in accordance with national laws and/or practices.

1.3. Supervision

To ensure workers' safety and health protection during all operations undertaken, the necessary supervision must be provided by persons having the skills and competence for this duty, in accordance with the national laws and/or practices, having been appointed by the employer or on his behalf and acting on his behalf.

Where required by the safety and health document, a supervisor must visit occupied workstations at least once during each shift.

The employer may personally undertake the supervision referred to in the first and second subparagraphs if he has the skills and competence required for the purpose, in accordance with national laws and/or practices.

1.4. Competent workers

When workers are present at any workplace, there must be a sufficient number of workers with the requisite skills, experience and training to perform the tasks assigned to them.

1.5. Information, instructions and training

Workers must be given the necessary information, instructions, training and re-training to ensure their health and safety.

The employer must ensure that workers receive comprehensible instructions so as not to endanger their safety and health or those of other workers.

1.6. Written instructions

Written instructions specifying rules to be observed to ensure the safety and health of workers and the safe use of equipment must be drawn up for every workplace.

These must include information on the use of emergency equipment and action to be taken in the event of an emergency at or near the workplace.

1.7. Safe working methods

Safe working methods must be applied at each workplace or in respect of each activity.

1.8. Work permits

Where required by the safety and health document, a system of work permits must be introduced for carrying out both hazardous activities and usually straightforward activities which may interact with other activities to cause serious hazards.

Work permits must be issued by a person in charge before work starts and must specify the conditions to be fulfilled and the precautions to be taken before, during and after work.

1.9. Regular review of safety and health measures

The employer must ensure that the measures taken to protect the safety and health of the workers, including the safety and health management system, are regularly reviewed to ensure compliance with this Directive.

2. Mechanical and electrical equipment and plant

2.1. General

Selection, installation, commissioning, operation and maintenance of mechanical and electrical equipment must take place with due regard for the safety and health of workers, taking into consideration other provisions of this Directive and of Directives 89/392/EEC[(1)] and 89/655/EEC[(2)].

If located in an area within which risk of fire or explosion from ignition of gas, vapour or volatile liquid exists, or is likely to exist, equipment must be suitable for use in that area.

Equipment must, if necessary, be fitted with suitable protective devices and fail-safe systems.

2.2. Specific provisions

Mechanical equipment and plant must be of adequate strength and free from patent defect and suitable for the purpose for which it is intended.

Electrical equipment and plant must be of sufficient size and power for the purpose for which it is intended.

Mechanical and electrical equipment and installations must be so installed and protected as to prevent danger.

3. Maintenance

3.1. General maintenance

A suitable scheme should be set up providing for the systematic examination, maintenance and, where appropriate, testing of mechanical and electrical equipment and plant.

All maintenance, examination and testing of any part of the plant and equipment must be carried out by a competent person.

Records of examinations and tests must be made and kept in an appropriate manner.

3.2. Safety equipment maintenance

Adequate safety equipment must be maintained ready for use and in good working order at all times.

Maintenance must be undertaken with due regard to operations.

4. Protection from explosion risks, harmful atmospheres and fire hazards

4.1. General

4.1.1. Measures must be taken for assessing the presence of harmful and/or potentially explosive substances in the atmosphere and for measuring the concentration of such substances.

Where required by the safety and health document, monitoring devices measuring gas concentrations at specified places automatically and continuously, automatic alarms and devices to cut off power automatically from electrical installations and internal combustion engines must be provided.

Where automatic measurements are provided for, the values measured must be recorded and kept as stipulated in the safety and health document.

4.1.2. Smoking is forbidden in areas subject to particular fire or explosion hazards.

The use of any open flame and the execution of any work that may give rise to an ignition hazard is prohibited unless adequate safety precautions are taken to prevent the occurrence of fires or explosions.

4.2. Protection from explosion risks

4.2.1. All necessary measures must be taken to combat the formation and accumulation of explosive atmospheres.

4.2.2. In areas where there are risks of explosion, all necessary measures must be taken to prevent the ignition of explosive atmospheres.

4.2.3. An explosion prevention plan detailing the equipment and measures required must be prepared.

4.3. Protection from harmful atmospheres

4.3.1. Where harmful substances accumulate or may accumulate in the atmosphere, appropriate measures must be taken to ensure:

(a) their suppression at source; or

(b) their extraction at source or removal; or

(c) diliction accumulations of such substances,

in such a way that workers are not at risk.

The system must be capable of dispersing these harmful substances in such a way that workers are not at risk.

4.3.2. Without prejudice to Directive 89/656/EEC[(3)], appropriate and sufficient breathing and resuscitation equipment must be available in areas where workers may be exposed to atmospheres which are harmful to health.

In such cases, a sufficient number of workers trained to use such equipment must be present at the workplace.

The equipment must be suitably stored and maintained.

4.3.3. Where toxic gases are, or may be, present in the atmosphere, a protection plan detailing the protective equipment available and the preventive measures taken must be available.

4.4. Protection from fire hazards

4.4.1. Wherever workplaces are designed, constructed, equipped, commissioned, operated or maintained, adequate measures must be taken to prevent fires from starting and spreading from the sources identified in the safety and health document.

Provision must be made for fast and effective fire-fighting.

4.4.2. Workplaces must be equipped with appropriate fire-fighting equipment and, as necessary, with fire detectors and alarm systems.

4.4.3. Non-automatic fire-fighting equipment must be easily accessible and simple to use and, where necessary, protected from damage.

4.4.4. A fire protection plan detailing the precautions to be taken, in accordance with Articles 3, 4, 5 and 6 of this Directive, to protect against, detect and combat the outbreak and spread of fires must be kept on site.

4.4.5. The fire-fighting equipment must be indicated by signs in accordance with the national regulations transposing Directive 92/58/EEC[(4)] into law.

Such signs must be placed at appropriate points and be made to last.

5. Explosives and initiating devices

Operations involving the storage, transport and use of explosives and initiating devices must be carried out by duly authorized and competent persons.

Such operations must be organized and performed in such a way that there is no risk to workers.

6. Traffic routes

6.1. It must be possible to reach workplaces without danger and leave them quickly and safely in an emergency.

6.2. Traffic routes, including stairs, fixed ladders and loading bays and ramps, must be calculated, dimensioned and located 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.

6.3. 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.

6.4. Sufficient clearance must be allowed between vehicle traffic routes and doors, gates, passages for pedestrians, corridors and staircases.

6.5. Traffic and access routes must be clearly identified for the protection of workers.

6.6. Where vehicles or machines enter workplaces, traffic regulations must be established as necessary.

7. Outdoor workplaces

7.1. Workstations, traffic routes and other areas or installations outdoors which are occupied or used by the workers in the course of their activity must be organized in such a way that pedestrians and vehicles can circulate safely.

7.2. Workplaces outdoors must be adequately lit by artificial lighting if daylight is not adequate.

7.3. 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.

8. Danger areas

8.1. Danger areas must be clearly indicated.

8.2. If the workplaces contain danger areas in which, owing to the nature of the work, there are risks including that of the worker or objects falling, the places must be equipped, as far as possible, with devices preventing unauthorized workers from entering those areas.

8.3. Appropriate measures must be taken to protect workers authorized to enter danger areas.

9. Emergency routes and exits

9.1. In the event of danger, it must be possible for workers to evacuate all workstations quickly and as safely as possible.

9.2. Emergency routes and exits must remain clear and lead by the most direct means to the open air or to a safe area, a safe assembly point or a safe evacuation point.

9.3. 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.

9.4. Emergency doors must open outwards.

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.

9.5. 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.

9.6. Emergency routes and exits requiring illumination must be provided with emergency lighting of adequate intensity in case the lighting fails.

9.7. Specific emergency routes and exits must be indicated by signs in accordance with the national regulations transposing Directive 92/58/EEC into law.

10. Means of evacuation and escape

10.1. Workers must be trained in the appropriate actions to be taken in emergencies.

10.2. Rescue equipment must be provided at readily accessible and appropriately sited places and kept ready for use and must be indicated by signs in accordance with the national regulations transposing Directive 92/58/EEC into law.

11. Safety drills

Safety drills must be held at regular intervals at all workplaces at which workers are usually present.

The main purpose of such drills is to train and check the skills of workers to whom specific duties have been assigned in the event of emergency involving the use, handling or operation of emergency equipment.

Where appropriate, workers should also be drilled in the correct use, handling or operation of that equipment.

12. First-aid facilities

12.1. First-aid equipment must be available in all places where working conditions require it and must be appropriate to the operation.

This equipment must be indicated by suitable signs and easily accessible.

12.2. 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.

Clearly visible first-aid instruction in the event of accidents must be displayed in these rooms.

12.3. 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 92/58/EEC into law.

12.4. 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.

12.5. A sufficient number of workers must be trained in the use of the first-aid equipment provided.

13. Natural and artificial lighting

13.1. Every workplace must be provided throughout with lighting capable of supplying illumination sufficient to ensure the health and safety of persons therein.

13.2. Workplaces must as far as possible receive sufficient natural light and, bearing in mind the climatic conditions, be equipped with artificial lighting for the protection of workers' safety and health.

13.3. Lighting installations in rooms containing workplaces and in passageways must be placed in such a way that the type of lighting does not present a risk of accident to workers.

13.4. Workplaces in which workers are exposed to risks in the event of failure of artificial lighting must be provided with emergency lighting of adequate intensity.

Where that is impossible, workers must be provided with personal lamps.

14. Sanitary installations

14.1. Changing rooms and lockers

14.1.1. 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.

14.1.2. Changing rooms must be sufficiently large and have facilities to enable each worker to lock away his/her 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.

Provision must be made to enable wet work clothes to be dried.

14.1.3. Provision must be made for separate changing rooms or separate use of changing rooms for men and women.

14.1.4. If changing rooms are not required under 14.1.1, each worker must be provided with a place to store his/her clothes.

14.2. Showers and washbasins

14.2.1. 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.

14.2.2. 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 water.

14.2.3. Where showers are not required under the first subparagraph of 14.2.1, adequate and suitable washbasins with hot and cold water 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.

14.3. Lavoratories 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.

Provisions must be made for separate lavatories or separate use of lavatories for men and women.

In the case of underground mineral-extracting industries, the sanitary installations referred to in this section may be located on the surface.

15. Overburden dumps and other tips

Overburden dumps, spoil heaps and other tips, as well as settling lagoons, must be designed, constructed, operated and maintained in such a way as to ensure their stability, as well as the safety and health of workers.

16. Ancillary surface installations (additional special provisions)

16.1. Stability and solidity

Workplaces must be designed, constructed, erected, operated, supervised and maintained to withstand the environmental forces anticipated.

They must have a structure and solidity appropriate to the nature of their use.

16.2. Floors, walls, ceilings and roofs of rooms

16.2.1. 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 against heat, bearing in mind the type of undertaking involved and the physical activity of the workers.

16.2.2. 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.

16.2.3. 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.

16.2.4. 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.

16.3. Room dimensions and air space in rooms —freedom of movement at the workstation

16.3.1. 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.

16.3.2. The dimensions of the unoccupied area at the workstation must allow workers sufficient freedom of movement and enable them to perform their work safely.

16.4. Windows and skylights

16.4.1. Windows, skylights and ventilation devices which are meant to be opened, adjusted or secured must be designed so that these operations can be carried out safely.

They must not be positioned so as to constitute a hazard to workers when open.

16.4.2. It must be possible to clean windows and skylights without risk.

16.5. Doors and gates

16.5.1. 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.

16.5.2. Transparent doors must be appropriately marked at a conspicuous level.

16.5.3. Swing doors and gates must be transparent or have see-through panels.

16.5.4. 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.

16.5.5. Sliding doors must be fitted with a safety device to prevent them from being derailed and falling over unexpectedly.

16.5.6. Doors and gates opening upwards must be fitted with a mechanism to secure them against falling back unexpectedly.

16.5.7. 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.

16.5.8. 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.

16.5.9. Mechanical doors and gates must function without 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.

16.6. Ventilation of enclosed workplaces

16.6.1. Steps shall be taken to ensure 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 must be maintained in working order.

Any breakdown must be indicated by a control system where this is necessary for workers' health.

16.6.2. 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.

16.7. Room temperature

16.7.1. During working hours, the temperature in rooms containing workstations must be suitable for human beings, having regard to the working methods being used and the physical demands placed on the workers.

16.7.2. 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.

16.7.3. 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.

16.8. Rest rooms

16.8.1. 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 requires, 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.

16.8.2. Rest rooms must be large enough and equipped with an adequate number of tables and seats with backs for the number of workers.

16.8.3. In rest rooms appropriate measures must be introduced for the protection of non-smokers against discomfort caused by tobacco smoke.

16.8.4. 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. Disabled workers

Workplaces must be organized to take account of disabled workers, if necessary.

This provision applies in particular to the doors, passageways, staircases, showers, washbasins, lavatories and workstations used or occupied directly by disabled workers.

## PART B

## SPECIAL MINIMUM REQUIREMENTS APPLICABLE TO SURFACE MINERAL-EXTRACTING INDUSTRIES

1. General

1.1. Without prejudice to Article 3 (2), the employer who, in accordance with national legislation and/or practice, is responsible for the workplace covered by this Part B must ensure that the safety and health document shows that all relevant measures have been taken to protect the safety and health of workers in both normal and critical situations.

1.2. The safety and health document must be brought up to date regularly and be available for inspection at the workplace.

Work must be carried out in accordance with the safety and health document.

2. Operation

2.1. Work must be planned taking into account the elements of the safety and health document which concern the risks of falls or slips of ground.

Consequently, as a preventive measure, the height and slope of overburden-stripping and extraction faces must be appropriate to the nature and stability of the ground and the methods of working.

2.2. Benches and haul roads must be stable enough for the plant used.

They must be constructed and maintained in such a way that plant can be moved safely.

2.3. Before the start or restart of work, stripping and extraction faces above work areas or haul roads must be checked for loose ground or rocks.

Scaling must be carried out where necessary.

2.4. Faces and tips must not be worked in such a way that instability is created.

## PART C

## SPECIAL MINIMUM REQUIREMENTS APPLICABLE TO UNDERGROUND MINERAL-EXTRACTING INDUSTRIES

1. General

1.1. Without prejudice to Article 3 (2), the employer who, in accordance with national legislation and/or practice, is responsible for the workplace covered by this Part C must ensure that the safety and health document shows that all relevant measures have been taken to protect the safety and health of workers in both normal and critical situations.

1.2. The safety and health document must be brought up to date regularly and be available for inspection at the workplace.

Work must be carried out in accordance with the safety and health document.

2. Plans of underground workings

2.1. Plans of underground workings drawn to a scale which provides a clear representation must be prepared.

In addition to roadways and winning areas, they must show the known features which may influence working and safety.

They must be readily accessible and must be kept for as long as is necessary for safety purposes.

2.2. Plans of underground workings must be brought up to date periodically and held available at the workplace.

3. Outlets

All undergound workings must have access to the surface via at least two separate outlets which are soundly constructed and readily accessible to underground workers.

Mechanical manwinding or manriding facilities must be available for these outlets if considerable physical effort is involved in negotiating them.

4. Workings

Workings where underground work is carried out must be constructed, operated, equipped and maintained so that workers can work and move in them with a minimum of risk.

Roadways must be signposted to help workers to find their way about the workings.

5. Transport

5.1. Transport facilities must be installed, operated and maintained in such a way as to ensure the safety and health of drivers, users and other persons in the vicinity.

5.2. Mechanical manwinding or manriding facilitates must be properly installed and used in accordance with written instructions.

6. Support and ground stability

Support must be provided as soon as possible after excavation, except where the stability of the ground makes it unnecessary for the safety of workers. Support must be installed in accordance with plans and written instructions.

Workings accessible to workers must be inspected regularly for ground stability, and support maintained accordingly.

7. Ventilation

7.1. All underground workings to which access is permitted must be ventilated in an appropriate manner.

Continuous ventilation must be provided to maintain, with an adequate safety margin:

— a healthy atmosphere,

— an atmosphere in which the risks of explosion and respirable dust are kept under control,

— an atmosphere in which working conditions are adequate while work is in progress, having regard to the working methods being used and the physical demands placed on the workers.

7.2. Where the requirements of 7.1 cannot be met by natural ventilation, the main ventilation must be provided by means of one or more mechanical fans.

Steps must be taken to ensure stable and continuous ventilation.

The depression of the main fans must be monitored continuously, and an automatic alarm must indicate unscheduled stoppages.

7.3. The ventilation parameters must be measures periodically and recorded.

A ventilation plan containing the pertinent details of the ventilation system must be prepared, brought up to date periodically and held available at the workplace.

8. Gassy mines

8.1. An underground working is regarded as gassy if firedamp is likely to be released in such a quantity that the risk of formation of an explosive atmosphere cannot be excluded.

8.2. The main ventilation must be provided by one or more mechanical fans.

8.3. Working must proceed taking account of firedamp emission.

Steps must be taken to eliminate as far as possible the risks arising from firedamp.

8.4. Auxiliary ventilation must be limited to development and salvage work and to places with a direct connection to the main ventilation current.

Production workings may be ventilated by auxiliary systems only if appropriate additional measures are taken to ensure the safety and health of workers.

8.5. The ventilation measurement referred to under 7.3 must be supplemented by firedamp determinations.

Where required by the safety and health document, firedamp levels must also be continuously monitored in return airways from production units using mechanized extraction or underpinning and at the head ends of mechanized blind end workings.

8.6. Only explosives and initiating devices specifically for gassy mines may be used.

8.7. The provisions of 4.1.2 of Part A are replaced as follows:

— Smoking, carrying tobacco for smoking and any objects which may be used to produce a flame are prohibited.

— Flame cutting, welding and other similar operations are permitted only in exceptional circumstances and subject to specific measures ensuring the safety and health of the workers.

9. Mines containing flammable dusts

9.1. Coal mines are considered to be susceptible to flammable dusts except where the safety and health document shows that none of the seams being worked contains dust liable to propagate an explosion.

9.2. In mines with flammable dusts the provisions of 8.6 and 8.7 of this Part C apply *mutatis mutandis*.

9.3. Steps must be taken to reduce flammable dust deposits, and to remove neutralize or bind the same.

9.4. Propagation of flammable dust and/or firedamp explosions which are liable to trigger further flammable dust explosions must be limited by installing a system of explosion barriers.

The locations of such explosion barriers must be indicated in a document which is brought up to date periodically and held available at the workplace.

10. Gas outbursts, rockbursts and water inrushes

10.1. In zones susceptible to gas outbursts with or without the projection of minerals or rock, rock- bursts or water inrushes, an operating plan must be drawn up and implemented so as to ensure, as far as possible, a safe system of work and the protection of workers.

10.2. Measures must be taken to identify risk zones, protect workers in workings approaching or traversing these zones, and control the risks.

11. Fires, combustions and heatings

11.1. Provision must be made for the prevention and, where appropriate, the early detection of spontaneous combustion.

11.2. Flammable materials taken into underground workings must be limited to the quantities which are strictly necessary.

11.3. Where it is necessary to use hydraulic fluids (fluids for the transmission of hydrostatic and/or hydrokinetic mechanical energy), fluids which are difficult to ignite must, as far as possible, be used in order to avoid the risk of fire and its spread.

The hydraulic fluids must satisfy specifications and test conditions relating to fire resistance and hygiene criteria.

Where hydraulic fluids are used which do not satisfy the specifications, conditions and criteria referred to in the second subparagraph, additional precautions must be taken to avoid the increased risk of fire and its spread.

12. Precautions for withdrawal of workers

So that they can withdraw in safety, workers must, where necessary, be provided with self-rescue respiratory protection devices which they must always keep within their reach.

Workers must be trained in the use of these devices.

These devices must remain at the site and be checked regularly to ensure that they are in good condition.

13. Lighting

The provisions of section 13 of Part A are replaced as follows:

— Workers must be provided with a suitable personal lamp.

— Workstations must as far as possible be equipped with artificial lighting adequate for the protection of workers' safety and health.

— Lighting installations 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.

14. Underground workforce accounting

It must be possible to know exactly who is under ground at any time.

15. Rescue organization

In order to enable suitable action to be taken rapidly and effectively in the event of a major incident, an adequate rescue organization must be set up.

The rescue organization must, in order to be able to act at any site where underground extraction or exploratory workings are in progress, have sufficient trained rescue workers and adequate rescue equipment at its disposal.

(**1**) OJ No L 183, 29.6.1989, p. 9. Directive amended by Directive 91/368/EEC (OJ No L 198, 22.7.1991, p. 16).

(**2**) OJ No L 393, 30.12.1989, p. 13.

(**3**) OJ No L 393, 30.12.1989, p. 18.

(**4**) OJ No L 245, 26.8.1992, p. 23.