

No. 43

THE HEALTH AND SAFETY AT WORK ORDINANCE, 1999
(Ordinance 6 of 1999)

REGULATIONS MADE UNDER SECTION 38

In exercise of the powers conferred upon him under section 38 of the Health and Safety at Work Ordinance 1999^(a), and of all other powers enabling him in that behalf, the Administrator hereby makes the following Regulations:-

**PART 1
GENERAL**

1. These Regulations may be cited as the Health and Safety at Work (Surface and Underground Mineral-Extracting Industries) Regulations 2003 and shall come into force on the date of their publication in the Gazette.

2. - (1) In these Regulations, unless the context otherwise requires:-

“corrected effective temperature” means a temperature under which the still saturated vapour would result in the same warmth feeling as the one resulting from the combination of the prevailing temperature values shown by a black bulb thermometer, a wet bulb thermometer and the air speed movement within the workplace;

“the Management Regulations” means the Management of Health and Safety at Work Regulations 2003^(b);

“the Ordinance” means the Health and Safety at Work Ordinance 1999;

“the Safety Signs Regulations” means the Health and Safety at Work (Signs, Signals and Markings) Regulations 2002^(c);

“surface and underground mineral-extracting industries” means all industries practising:-

- (a) surface or underground extraction of minerals;
- (b) prospecting with a view to such extraction; or
- (c) preparation of extracted materials for sale, excluding the activities of processing the materials extracted,

excluding mineral-extracting industries through drilling;

“workplace” means the whole area intended to house workstations, relating to the immediate and ancillary activities and installations of the surface or underground mineral-extracting industries, including overburden dumps and other tips and accommodation, where provided, to which employees have access in the course of their work.

(2) In these Regulations, unless the context otherwise requires:-

(a) Ordinance No.6 of 1999.

(b) P.I. No. 22 of 2003.

(c) P.I. No. 18 of 2002.

- (a) any reference to a numbered regulation or a numbered Schedule is a reference to the regulation or Schedule so numbered in these Regulations;
- (b) any reference to a numbered paragraph is a reference to the paragraph so numbered in the regulation or Schedule in which it appears.

(3) In these Regulations, unless the context otherwise requires, any reference to an employer includes a reference to a self-employed person and any duty imposed by these Regulations upon an employer in respect of his employees shall extend to a self-employed person in respect of himself.

Object and application

3. - (1) These Regulations specify minimum requirements for the protection of the health and safety of persons at work in surface and underground mineral-extracting industries.

(2) The provisions of the Ordinance and any relevant regulations made thereunder shall apply for the purposes of protecting the health and safety of persons at work in surface and underground mineral-extracting industries, without prejudice to more stringent or more specific provisions contained in these Regulations.

PART 2

EMPLOYERS' OBLIGATIONS

General obligations

4. - (1) To safeguard the health and safety of employees, every employer shall take the necessary measures to ensure that:-

- (a) the workplace is designed, constructed, equipped, commissioned and operated in such a way that employees can perform the work assigned to them without endangering their health or safety or the health or safety of other employees;
- (b) when employees are present, the operation of the workplace takes place under the supervision of a person in charge;
- (c) work involving a special risk is entrusted only to competent staff and carried out in accordance with the instructions given;
- (d) all safety instructions are comprehensible to all the employees concerned;
- (e) appropriate first-aid facilities are provided; and
- (f) any required safety drills are performed at regular intervals.

(2) Every employer shall ensure that a document, hereinafter referred to as "the health and safety document", is drawn up and kept up to date.

(3) The health and safety document shall demonstrate, inter alia, that:-

- (a) the risks to which employees at the workplace are exposed have been determined and assessed;
- (b) adequate measures will be taken to ensure compliance with these Regulations;
- (c) the design, use and maintenance of the workplace and of the equipment, devices and systems provided therein are safe.

(4) The health and safety document must be drawn up before work starts and be revised if the workplace has undergone any major change, extension or conversion.

(5) Where employees from several undertakings are present at the same workplace, each employer shall be responsible for all matters under his control.

(6) The employer who, in accordance with existing legislation and practice, is in charge of the workplace shall be responsible for the co-ordination of the implementation of all the measures concerning the health and safety of persons at work and shall state in his health and safety document, the purpose of such co-ordination and the measures and procedures for implementing it.

(7) The co-ordination referred to in paragraph (8) shall not affect the responsibility of individual employers as provided for in the Ordinance and in the Management Regulations.

(8) The employer shall submit a report to the Inspector regarding any serious or fatal occupational accidents and any situations of serious danger as soon as possible after the event, which report shall include a description of the accident or situation, as the case may be, its causes and the measures taken or to be taken to avoid similar incidents occurring in future.

(9) The employer shall up-date the health and safety document mentioning the measures taken to avoid the repetition of occupational accidents or situations of serious danger.

Protection from fire, explosions and harmful atmospheres

5. Every employer shall take measures and precautions appropriate to the nature of the undertaking in order to:-

- (a) avoid, detect and combat the starting and spread of fires and explosions, and
- (b) prevent the occurrence of explosive or harmful atmospheres.

Escape and rescue facilities

6. Every employer shall ensure the provision and maintenance of appropriate means of escape and rescue, in order to ensure that employees have adequate opportunities for leaving the workplace promptly and safely in the event of danger.

Communication, warning and alarm systems

7. Every employer shall ensure the provision and maintenance of adequate warning and other communication systems to enable assistance, escape and rescue operations to be launched immediately if the need arises.

Information for employees

8. - (1) Without prejudice to regulation 9 of the Management Regulations, employees or their representatives must be informed by the employer of all measures to be taken concerning health and safety at the workplace, and, in particular, of those measures relating to the implementation of regulations 4 to 7.

(2) The information provided pursuant to paragraph (1) must be comprehensible to the employees concerned.

Health surveillance

9. - (1) To ensure that employees receive health surveillance appropriate to the health and safety risks they incur at work, every employer shall ensure that employees are entitled to or undergo health surveillance-

- (a) before being assigned to duties relating to the activities of surface and underground mineral-extracting industries;
- (b) when transferring to a different type of work; and
- (c) subsequently, at regular intervals, which must not exceed two years.

(2) Health surveillance may be provided as part of the national health service provided by the Republic.

Consultation and participation of employees

10. Consultation and participation of employees or their representatives shall take place in accordance with regulation 12 of the Management Regulations, on the matters covered by these Regulations.

Minimum health and safety requirements

11. - (1) The employer responsible for any workplace used after these Regulations come into force must ensure that it satisfies the minimum requirements for health and safety specified in the Schedule.

(2) When any workplace undergoes any change, extension or conversion after these Regulations come into force, the employer responsible for the workplace shall take the measures necessary to ensure that such change, extension or conversion is in compliance with the relevant minimum requirements for health and safety specified in the Schedule.

THE SCHEDULE
(Regulation 11)

MINIMUM REQUIREMENTS FOR HEALTH AND SAFETY

Preliminary

1. – (1) The obligations laid down in this Schedule shall apply whenever required by:-

- (a) the features of the workplace;
- (b) the nature of the activity;
- (c) the circumstances; or
- (d) a specific risk.

(2) In this Schedule, any reference to a numbered Table is a reference to the Table so numbered in this Schedule.

PART A

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

Supervision and organisation

2. – (1) The workplace must be so organised as to provide adequate protection against hazards and must be kept in good order, with any hazardous substances or deposits removed or controlled in order not to endanger the health or safety of employees.

(2) Workstations must be designed and constructed according to ergonomic principles, taking into account the need for employees to be able to carry out their work at their workstations.

(3) Where workstations are occupied by lone employees, adequate supervision or means of communication must be provided.

(4) A responsible person who has the skills and competence required for this duty, in accordance with existing legislation and practice, and who has been appointed by the employer, must at all times be in charge of the workplace when employees are present.

(5) The employer may personally assume responsibility for the workplace as referred to in sub-paragraph (4) above, if he has the skills and competence required for the purpose, in accordance with existing legislation and practice.

(6) To ensure employees' health and safety protection during all operations undertaken, the necessary supervision must be provided by persons having the skills and competence for this duty, in accordance with existing legislation and practice, having been appointed by the employer or on his behalf and acting on his behalf.

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

(8) The employer may personally undertake the supervision referred to in sub-paragraphs (6) and (7) above, if he has the skills and competence required for the purpose, in accordance with existing legislation and practice.

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

(10) Employees must be given the necessary information, instructions, training and re-training to ensure their health and safety.

(11) The employer must ensure that employees receive comprehensible instructions so as not to endanger their health or safety or those of other employees.

(12) Written instructions specifying rules to be observed to ensure the health and safety of employees and the safe use of equipment must be drawn up for the workplace.

(13) The written instructions 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.

(14) Safe working methods must be adopted in the workplace.

(15) Where required by the health and safety document, a system of work permits must be introduced for carrying out both hazardous activities and other activities which in themselves are not hazardous but which may cause serious hazards when combined with other activities.

(16) Work permits must be issued by the 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.

(17) The employer must ensure that the measures taken to protect the health and safety of employees, including the health and safety management system, are regularly reviewed to ensure compliance with these Regulations.

Mechanical and electrical equipment and plant

3. – (1) Selection, installation, commissioning, operation and maintenance of mechanical and electrical equipment must take place with due regard for the health and safety of employees, taking into consideration:-

- (a) relevant provisions of these Regulations; and
- (b) the provisions of the Health and Safety at Work (Use of Work Equipment) Regulations 2002^(d).

(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, mechanical and electrical equipment must be suitable for use in that area.

(3) Mechanical and electrical equipment must, if necessary, be fitted with suitable protective devices and fail-safe systems.

(4) Mechanical equipment and plant must be:-

- (a) of adequate strength;
- (b) free from patent defect; and
- (c) suitable for the purpose for which they are intended.

^(d) P.I. No. 63 of 2002.

(5) Electrical equipment and plant must be of sufficient size and power for the purpose for which they are intended.

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

Maintenance

4. - (1) A suitable scheme must be set up providing for the systematic:-

- (a) examination;
- (b) maintenance; and
- (c) where appropriate, testing,

of mechanical and electrical equipment and plant.

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

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

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

(5) Maintenance of safety equipment must be undertaken with due regard to operations.

Protection from explosion risks, harmful atmospheres and fire hazards

5. - (1) Measures must be taken for determining the presence and concentration of harmful or potentially explosive substances in the atmosphere.

(2) Where required by the health and safety document:-

- (a) monitoring devices measuring gas concentrations at specified places automatically and continuously;
- (b) automatic alarms; and
- (c) devices to cut off power automatically from electrical installations and internal combustion engines,

must be provided.

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

(4) Smoking is prohibited in areas subject to particular fire or explosion hazards.

(5) 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.

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

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

(8) An explosion prevention plan detailing the equipment and measures required must be prepared.

(9) Where:-

- (a) flammable or oxidising substances are used, stored, produced or emitted; or
- (b) dust is produced and has such properties and is in such concentration that it may ignite or cause an explosion,

the fabric of the building, including the steps, stairs, passageways and floors, must be made of fire-resistant material.

(10) All stocks of flammable and very flammable substances must be kept in:-

- (a) fire-resistant stores; or
- (b) safe places where employees are not likely to be present.

(11) Where harmful substances accumulate or may accumulate in the atmosphere, appropriate measures must be taken to ensure:-

- (a) their suppression at source;
- (b) their extraction at source or their prompt removal; or
- (c) their dilution,

in such a way that employees are not put at risk.

(12) The system used to ensure compliance with sub-paragraph (9) above must be capable of dispersing the harmful substances in such a way that employees are not put at risk.

(13) Without prejudice to the Health and Safety at Work (Use of Equipment for Personal Protective Equipment) Regulations 2002:-

- (a) appropriate and sufficient breathing and resuscitation equipment must be available in areas where employees may be exposed to atmospheres which are harmful to health;
- (b) a sufficient number of employees trained to use such equipment must be present at the workplace; and
- (c) such equipment must be suitably stored and maintained.

(14) 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.

(15) Adequate measures must be taken in the workplace to prevent fires from starting and spreading from the sources identified in the health and safety document.

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

(17) The workplace must be equipped with appropriate fire-fighting equipment and, as necessary, with fire detectors and alarm systems.

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

(19) A fire protection plan, detailing the precautions to be taken pursuant to regulations 4 to 7 to protect against, detect and combat the outbreak and spread of fires, must be kept on site.

(20) The fire-fighting equipment must be indicated by signs in accordance with the Safety Signs Regulations, which signs must be placed at appropriate points and be made to last.

Explosives and initiating devices

6. Operations involving the storage, transport or use of explosives or initiating devices must be:-

- (a) carried out by duly authorised and competent persons; and
- (b) organised and performed in such a way that there is no risk to employees.

Traffic routes

7. – (1) It must be possible to enter and leave the workplace quickly and safely in an emergency.

(2) The number, dimensions and locations of traffic routes (including stairs, fixed ladders and loading bays and ramps) must be appropriate, having regard to:-

- (a) the use to be made of them; and
- (b) the type of undertaking.

(3) Traffic routes must ensure:-

- (a) easy, safe and appropriate access for pedestrians or vehicles, as the case may be; and
- (b) not endanger employees working in the vicinity of such routes.

(4) Where means of transport are used on traffic routes, a sufficient safety clearance must be provided for pedestrians.

(5) Sufficient clearance must be allowed between vehicle traffic routes and doors, gates, passageways for pedestrians, corridors and staircases.

(6) Traffic routes and access routes must be clearly identified for the protection of employees.

(7) Where vehicles or machines enter the workplace, their movements must be regulated, as necessary.

Outdoor workplaces

8. - (1) Workstations, traffic routes and other areas or installations outdoors which are occupied or used by employees in the course of their work activities must be organised in such a way that pedestrians and vehicles can circulate safely.

(2) Every outdoor workplace must be adequately lit by artificial lighting, if daylight is not adequate.

(3) When employees are employed at workstations outdoors, such workstations must be arranged, as far as possible, so that employees:-

- (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.

Danger areas

9. – (1) Danger areas must be indicated clearly in accordance with the Safety Signs Regulations.

(2) Where the workplace contains danger areas in which, owing to the nature of the work, there is a risk of employees falling or objects falling on them, such places must be equipped, so far as is practicable, with devices preventing unauthorised employees from entering those areas.

(3) Appropriate measures must be taken to protect employees who are authorised to enter danger areas.

(4) Workstations and traffic routes which are on an incline or which are more than 2 metres (m) above ground, must be securely fenced or, where this is not practicable, other measures must be taken to prevent employees from falling.

(5) Channels, ditches and other openings in the ground must be securely covered or fenced to prevent employees from falling into them.

(6) Where there is a risk that employees may fall into tanks, pits or containers in which dangerous substances are stored, such tanks, pits or containers, as the case may be, must be securely covered or fenced, where practicable.

(7) For the purposes of sub-paragraphs (6) above, “dangerous substances” means:-

- (a) substances likely to scald or burn;
- (b) poisonous substances;
- (c) corrosive substances;
- (d) fumes, gases or vapours likely to overcome a person;
- (e) granular or free-flowing solid substances or viscous substances which, in either case, are of a nature or in a quantity likely to cause danger to any person.

(8) Where there is a risk of objects falling onto employees, appropriate measures must be taken to minimise such risk.

(9) Staircases must be fitted with at least one suitable handrail.

(10) Stairways must be securely fenced, where practicable.

(11) For the purposes of sub-paragraphs (4) to (6) and (10) above, fencing may take the form of parapets, guard-rails or other suitable protective barriers, provided they are at least 1,10 m high and are so designed and constructed as to prevent employees from falling through any gaps.

Emergency routes and exits

10. – (1) In the event of danger, it must be possible for employees to evacuate all workstations quickly and as safely as possible.

(2) Emergency routes and exits must be kept 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.

(3) The number, distribution and dimensions of the emergency routes and exits must be appropriate, having regard to:-

- (a) the dimensions of the workplace;
- (b) the nature of the work;
- (c) the equipment installed; and
- (d) the maximum number of persons that may be present.

(4) Emergency doors must open outwards.

(5) Emergency doors must 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.

(6) The emergency routes and exits, and the traffic routes and doors giving access to them, must be kept free from obstruction so that they can be used at any time without hindrance.

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

(8) The intensity of the emergency lighting must be at least 1/100 of the intensity of the artificial lighting and in any case not less than 1 Lux.

(9) Specific emergency routes and exits must be indicated by signs in accordance with the Safety Signs Regulations.

Means of evacuation and escape

11. – (1) Employees must be trained in the appropriate actions to take in emergencies.

(2) Rescue equipment must be:-

- (a) provided at readily accessible and appropriately sited places;
- (b) kept ready for use; and
- (c) indicated by signs in accordance with the Safety Signs Regulations.

Safety drills

12. Safety drills must be held at regular intervals at the workplace at times when employees are usually present, for the purposes of ensuring that:-

- (a) employees to whom specific duties have been assigned in the event of emergency are adequately trained to perform such duties; and
- (b) where such duties involve the use, handling or operation of emergency equipment, such employees are trained in the correct use, handling and operation of that equipment.

First-aid facilities

13. – (1) First-aid equipment must be:-

- (a) available in the workplace where the working conditions so require;
- (b) appropriate to the operations carried out in the workplace;
- (c) indicated by suitable signs; and
- (d) easily accessible.

(2) One or more first-aid rooms must be provided where:-

- (a) the size of the premises;
- (b) the type of activity carried out; and
- (c) the frequency of accidents,

so require.

(3) First-aid instructions to be followed in the event of accidents must be clearly displayed in first-aid rooms.

(4) First-aid rooms must be fitted with essential first-aid installations and equipment and be easily accessible to stretchers.

(5) First-aid rooms must be indicated in accordance with the Safety Signs Regulations.

(6) Without prejudice to sub-paragraphs (2) to (5) above, first-aid equipment must be available in all places where working conditions so require.

(7) First-aid equipment must be suitably marked and easily accessible.

(8) A sufficient number of employees must be trained in the use of the first-aid equipment provided.

Natural and artificial lighting

14. – (1) Every workplace must be provided throughout with lighting capable of supplying illumination sufficient to ensure the health and safety of persons present.

(2) So far as is practicable, the workplace must receive sufficient natural light and where necessary, having regard to the climatic conditions, be equipped with artificial lighting, for the protection of employees' health and safety.

(3) Lighting installations in rooms containing workstations and in passageways must be positioned in such a way that the type of lighting fitted does not present a risk of accident to employees.

(4) Subject to sub-paragraph (5) below, where employees are likely to be exposed to health or safety risks, in the event of any failure of artificial lighting, emergency lighting must be provided with an intensity of not less than 1/100 of the intensity of the artificial lighting provided and in any case not less than 1 Lux.

(5) Where compliance with sub-paragraph (4) above is not practicable, employees must be provided with personal lamps.

(6) Subject to sub-paragraph (7) below, control rooms, emergency exits, access points and danger areas must be lit continuously.

(7) Where the places referred to in sub-paragraph (6) above are only occasionally occupied or used, they need only be lit when they are.

(8) The minimum light intensity in the workplace shall be that specified in the relevant entry in column 2 of Table 1 for the type of workplace specified in the column 1 thereof.

(9) Artificial lighting must:-

- (a) be appropriate to the nature of the work;
- (b) provide a light spectrum which is similar to that of natural lighting;
- (c) minimise dazzling;
- (d) not produce excessive changes in luminosity;
- (e) be diffused and directed appropriately.

Changing rooms and lockers

15. – (1) Appropriate changing rooms must be provided for employees 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.

(2) Changing rooms must be:-

- (a) easily accessible;
- (b) of sufficient capacity;
- (c) provided with seating.

(3) Personal lockers must be provided in changing rooms to enable employees to lock away their clothes during working hours, which lockers must each have a minimum capacity of 0,25 m³ and be adequately aerated.

(4) Where circumstances so require (for example where dangerous substances, humidity or dirt are present in the workplace) personal lockers for work clothes must be separate from those for ordinary clothes.

(5) Equipment must be provided to enable wet work clothes to be dried.

(6) There must be separate changing rooms for men and women.

(7) Where changing rooms are not required by sub-paragraph (1) above, each employee must be provided with a place to store his clothes.

Showers and washbasins

16. – (1) Suitable showers, with hot and cold running water, must be provided for employees, where required:-

- (a) by the nature of the work; or
- (b) for health reasons.

(2) The minimum number of showers provided pursuant to sub-paragraph (1) above must be at least 1 for every 6 employees interrupting their work at the same time.

(3) Shower rooms must be sufficiently large and provide a minimum floor space of 1,00 m² per person, to enable each employee to wash without hindrance in conditions of an appropriate standard of hygiene

(4) There must be separate showers for men and women.

(5) Where showers are not required by sub-paragraph (1) above, suitable washbasins, with hot and cold running water, must be provided in the vicinity of workstations and changing rooms.

(6) The minimum number of washbasins provided pursuant to sub-paragraph (5) above shall be that specified in the relevant entry in column 2 of Table 2 for the number of employees interrupting their work at the same time specified in column 1 thereof.

(7) There must be separate washbasins for men and women.

(8) Shower rooms and wash rooms must:-

- (a) have at least 5 air changes per hour;
- (b) have adequate lighting with a minimum intensity of 100 Lux;
- (c) be cleaned at least once per day; and
- (d) be appropriately enclosed, for reasons of propriety.

(9) Shower rooms and wash rooms must be provided with:-

- (a) an adequate supply of soap or other suitable means of washing;
- (b) an adequate supply of towels or other suitable means of drying; and
- (c) an adequate number of suitable containers for the disposal of used towels.

(10) Where the shower rooms or wash rooms are separate from the changing rooms, there must be easy access between the two.

Sanitary conveniences (latrines, lavatories and washbasins)

17. – (1) Sanitary conveniences (in the form of latrines, lavatories and washbasins) must be provided in the vicinity of workstations, rest rooms, changing rooms and shower rooms or wash rooms.

(2) The minimum number of lavatories and latrines provided pursuant to sub-paragraph (1) above for male employees shall be that specified in the relevant entries in columns 2 and 3 of Part A of Table 3 respectively, for the number of male employees specified in column 1 thereof.

(3) The minimum number of lavatories provided pursuant to sub-paragraph (1) above for female employees shall be that specified in the relevant entry in column 2 of Part B of Table 3, for the number of female employees specified in column 1 thereof.

(4) There must be separate, clearly marked, sanitary conveniences for men and women.

(5) In the case of underground mineral-extracting industries, the sanitary conveniences may be located on the surface.

(6) Sanitary conveniences must be cleaned at least once per day.

(7) Where a latrine is situated outside, it must be enclosed by suitable partitions, for reason of propriety.

(8) Each latrine must be equipped with a siphon or an S bend drainage pipe and a water trap and may be:-

- (a) in the form of individual bowls, each with their own drainage system and separated on each side by partitions;
- (b) of the vertical type suitable for multiple, simultaneous use with a common drainage system or a suitable number of individual drainage systems; or
- (c) built into the wall, with partitions at least 0,60 centimetres apart.

(9) Each lavatory must be:-

- (a) installed in a separate cubicle within the sanitary convenience, which cubicle must be appropriately enclosed, for reasons of propriety;
- (b) of the pillar type, unless this would be inappropriate;
- (c) connected to a suitable drainage system;
- (d) equipped with a siphon or S bend drainage pipe and adequately aerated to avoid the concentration of gases therein; and
- (e) equipped with a water trap.

(10) Each lavatory cubicle must:-

- (a) be covered;
- (b) have walls or partitions on all sides measuring at least 1,80 m high which may have a space at the bottom, not exceeding 0,20 m;
- (c) be fitted with a suitable door which can be secured from the inside by means of a bolt or lock, for reasons of propriety;
- (d) have a floor area of at least 1,50 m² and a width of not less than 1,10 m;
- (e) be provided with an adequate quantity of toilet paper; and
- (f) be provided with a covered bin, for the disposal of used toilet paper.

(11) Each sanitary convenience must have:-

- (a) impermeable floors and walls, the surfaces of which are easy to clean;
- (b) a floor drain with a water trap to facilitate cleaning;
- (c) a door fitted with an automatic return mechanism;
- (d) at least five air changes per hour provided:-
 - (i) by external opening windows; or
 - (ii) where it is not practicable to fit external opening windows, by artificial means; and

(e) lighting with a minimum intensity of 100 Lux.

(12) Where the number of lavatory cubicles provided for women exceeds 3, a washbasin, with hot and cold running water, must be provided in at least one of them.

(13) Without prejudice to sub-paragraph (12) above, an appropriate number of washbasins must be provided in, or in the immediate vicinity of, the sanitary conveniences.

(14) Sanitary conveniences must be separated from work areas by corridors, lobbies or yards.

Overburden dumps and other tips

16. 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 health and safety of employees.

Disabled persons at work

17. – (1) Every workplace must be organised to take account of the special needs of disabled persons at work.

(2) Sub-paragraph (1) above shall apply in particular to the doors, passageways, stairs, showers, washbasins, lavatories and workstations used or occupied by disabled persons at work.

PART B

ADDITIONAL SPECIAL PROVISIONS FOR ANCILLARY SURFACE INSTALLATIONS

Stability and solidity

18. Every workplace must:-

- (a) be designed, constructed, erected, operated, supervised and maintained to withstand the environmental forces anticipated; and
- (b) have a structure and solidity appropriate to the nature of the undertaking.

Floors, walls, ceilings and roofs of rooms and indoor workplaces

19. – (1) The floors of every indoor workplace must have no dangerous bumps, holes or slopes and must be fixed, stable and not slippery.

(2) Workstations must be adequately thermally insulated, having regard to:-

- (a) the nature of the work; and
- (b) the physical activity of the employees.

(3) 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.

(4) Transparent or translucent walls, in particular all-glass

partitions, in rooms or in the vicinity of any indoor workplace and traffic routes must be clearly indicated and made of safety material or be shielded from such places or traffic routes to prevent employees from coming into contact with such walls or being injured should the walls shatter.

(5) Access to roofs made of materials of insufficient strength and sloping roofs must not be permitted, unless equipment is provided to ensure that the work can be carried out in a safe manner.

(6) Where the nature of the work is such that:-

- (a) liquids may be spilled or it is otherwise necessary to wash floors in rooms thoroughly on a regular basis, such floors must be impermeable and must be provided with an effective means of drainage;
- (b) caustic or corrosive substances may be present, floors in rooms must be capable of resisting any damage which may otherwise be caused thereto;
- (c) there is a risk of fire from sparks being generated or flames being used or produced, floors in rooms must be fire-resistant;
- (d) explosions may occur due to the concentration of dust, fumes, gases or vapours, floors in rooms must be anti-static;
- (e) there is a high risk of electrocution, floors in rooms must be adequately insulated.

(7) The maximum load permitted to be placed on floors in rooms below which there are other rooms or workstations must be clearly indicated on signs at the entrances to the rooms concerned and at other clearly visible suitable points.

(8) The protective covers on openings in floors must be of adequate strength and must not be slippery or create a tripping hazard.

(9) Where protective covers are temporarily removed from floor openings in order to carry out any work (including any maintenance or repair work) other measures must be taken to ensure that employees do not fall into them and the covers must be restored as soon as the work is completed.

(10) Floors in rooms must be kept clean and free from obstruction.

(11) Walls in rooms must be:-

- (a) smooth and impermeable up to a height of at least 1,50 m from the ground:-
 - (i) where required for reasons of hygiene (such as in sanitary conveniences, shower rooms and wash rooms; or
 - (ii) where, due to the nature of the work, they have to be washed regularly.
- (b) fire-resistant, where there is a risk of fire because of the creation of sparks, or the use of flame.

(12) Roofs of rooms must be air-tight, water-tight and be adequately strong, having regard to the climatic conditions and any other pressures and strains that they may be exposed to.

(13) Loads may only be suspended from roofs or ceilings of rooms when the means to be used are suitable for the loads concerned.

(14) Roofs of rooms must be adequately thermally insulated, having regard to the prevailing climatic conditions.

(15) Glass roofs and ceilings of rooms must be shatter-proof.

Room dimensions and air space in rooms -freedom of movement at the workstation

20. – (1) Workrooms must have sufficient surface area, height and air space to allow employees to perform their work without risk to their health, safety or well-being.

(2) Subject to sub-paragraph (3) below, the design, location and dimensions of workstations must be suitable, having regard to:-

- (a) the nature of the work to be carried on at the workstations and elsewhere in the workplace;
- (b) the comfort and well-being of the employees using the workstations;
- (c) the need to clean and maintain the workstations; and
- (d) the need to provide for the circulation of materials and other employees around the workstations.

(3) Employees who are continuously present at their workstations must each be allocated a minimum space of:-

- (a) 12 cubic metres (m³), in the case of mainly sedentary work;
- (b) 15 m³, in the case of mainly light physical work;
- (c) 18 m³, in the case of mainly hard physical work,

and where other persons are required to carry out work at such workstations the minimum space allocated thereto must be increased appropriately.

(4) For the purposes of sub-paragraph (3) above, the space above the height of 4 m must not be taken into account.

(5) Subject to sub-paragraphs (6) and (7) below, the dimensions of the free unoccupied area at workstations must be such as to:-

- (a) allow employees adequate freedom of movement; and
- (b) enable them to perform their work.

(6) Without prejudice to sub-paragraph (5) above, the minimum free unoccupied area at workstations must be 1,50 square metres (m²) and the width of this area must at no point be less than 0,70 m.

(7) Where compliance with sub-paragraphs (5) and (6) above is not possible, for reasons specific to the workstation concerned, employees must be provided with adequate free space in the vicinity of their workstations to:-

- (a) allow them adequate freedom of movement; and

(b) enable them to perform their work.

(8) The minimum height of any covered work area must be that specified in the Regulation of Streets and Buildings Ordinance^(e), as amended, and any regulations made thereunder.

Windows and skylights

21. – (1) Windows, skylights and ventilation devices which are intended to be opened, adjusted or secured must be designed so that these operations can be carried out safely.

(2) Windows, skylights and ventilation devices must be positioned so that they do not constitute a hazard to employees when open.

(3) It must be possible for windows and skylights to be cleaned safely.

(4) Skylights must be shatter-proof.

Doors and gates

22. – (1) The number, distribution and dimensions of doors and gates, and the materials used in their construction, must be appropriate, having regard to:-

- (a) the nature of the rooms or areas in which they are fitted; and
- (b) the use made of such rooms or areas.

(2) Transparent doors must be appropriately marked at a conspicuous level.

(3) Swing doors and gates must be transparent or have see-through panels.

(4) Where transparent or translucent surfaces in doors and gates are not made of safety material and where there is a danger that employees may be injured if a door or gate should shatter, the surfaces must be protected against breakage.

(5) Sliding doors must be fitted with a safety device to prevent them from being derailed and falling over.

(6) Doors and gates opening upwards must be fitted with a mechanism to secure them against falling back.

(7) Doors along escape routes must be indicated in accordance with the Safety Signs Regulations.

(8) It must be possible to open doors along escape routes:-

- (a) from the inside at any time without special assistance;
- (b) when the workplace is occupied.

(9) Doors for pedestrians must be provided in the immediate

^(e) Ordinance No. 7 of 1984.

vicinity of any gates intended essentially for vehicle traffic, unless it is safe for pedestrians to pass through, and such doors must be indicated in accordance with the Safety Signs Regulations and be kept clear at all times.

(10) Mechanical doors and gates must:-

- (a) function in such a way that there is no risk of accident to any person;
- (b) be fitted with easily identifiable and accessible emergency shutdown devices; and
- (c) unless they open automatically in the event of a power failure, be capable of being opened manually.

Ventilation of enclosed workplaces

23. - (1) Every enclosed workplace must be ventilated with a sufficient quantity of fresh or purified air, having regard to:-

- (a) the working methods used; and
- (b) the physical demands placed on the employees.

(2) Where any enclosed workplace is to be ventilated by natural means, ten per cent of the area of the workplace must comprise external doors and windows which can be opened by at least half of their area.

(3) The minimum number of air changes per hour for the workplace shall be that specified in the relevant entry in column 2 of Table 4 for the type of workplace specified in column 1 thereof.

(4) Where the minimum number of air changes referred to in sub-paragraph (3) above cannot be achieved by natural means, an air-conditioning or a mechanical ventilation system must be used to ensure the minimum number of air changes are achieved.

(5) Where an air-conditioning or a mechanical ventilation system is used it must:-

- (a) operate in such a way that employees are not exposed to draughts which cause discomfort;
- (b) be examined regularly and any deposit or dirt likely to create an immediate danger to the health of employees by polluting the atmosphere, must be removed without delay; and
- (c) be fitted with a device to indicate any failure in its operation, where necessary for employees' health; and
- (d) be maintained in good working order.

Temperature in indoor workplaces

24. - (1) During working hours, the temperature in rooms containing workstations must be adequate, having regard to:-

- (a) the working methods used; and
- (b) the physical demands placed on the employees.

(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.

(3) Windows, skylights and glass partitions must not allow exposure to excessive effects of sunlight in the workplace, having regard to:-

- (a) the nature of the work; and
- (b) the type of workplace.

(4) Where work is carried out continuously in any indoor workplace:-

- (a) the maximum corrected effective temperature shall be that specified in the relevant entry in column 2 of Table 5 for the workload specified in column 1 thereof; and
- (b) so far as is practicable, the corrected effective temperature shall be maintained between a minimum of 15.5°C and a maximum of 26.7°C.

(5) In any indoor workplace where:-

- (a) the corrected effective temperature exceeds the maximum specified in the relevant entry in Table 5; or
- (b) a significant amount of the heat comes from sources which radiate that heat,

all practicable measures must be taken to protect employees, including, where appropriate, the use of fire-proof shades to cover the radiating source of heat and the maintenance of air ventilation at an adequate speed in the vicinity of the employees.

(4) Appropriate protective clothing and equipment must be provided to employees entering any indoor workplace where the temperature is less than minus 5°C.

(5) The protective clothing provided pursuant to sub-paragraph (4) above must include protective clothing for the feet, hands and head.

Rest rooms and eating facilities

25. – (1) Subject to sub-paragraph (2) below, where the health or safety of employees (in particular because of the type of activity carried out or the presence of more than 10 employees) so requires, employees must be provided with an easily accessible rest room.

(2) Sub-paragraph (1) above shall not apply where the employees are employed in offices or similar workrooms providing equivalent relaxation during breaks.

(3) Rest rooms must be large enough and equipped with:-

- (a) an adequate number of:-
 - (i) tables and seats with backs;
 - (ii) garbage bins;
 - (iii) clothes hangers;
 - (iv) containers for storing food and drinks; and
- (b) a fridge of suitable size,

having regard to the number of employees.

(4) Rest rooms must:-

- (a) be lit and aerated adequately; and
- (b) as far as possible, provide employees with a view of the outside.

(5) Where working hours are regularly and frequently interrupted and there is no rest room, other rooms must be provided in which employees can stay during such interruptions, wherever this is required for the health or safety of employees.

(6) Suitable facilities must be provided for pregnant or nursing mothers at work to lie down to rest.

(7) Where the nature of the work is such that employees must stand whilst carrying it out, appropriate seating must be provided at or in the vicinity of their workstations, to enable them to rest periodically.

(8) Where food eaten in the workplace would otherwise be likely to be contaminated, a separate room (a "canteen") must be provided, (if necessary outside but in the vicinity of the workplace).

(9) The canteen provided pursuant to sub-paragraph (8) above must:-

- (a) have a floor area of at least 18 m² for every 20 persons or less who interrupt their work at the same time;
- (b) have a smooth floor and walls with smooth surfaces, which are easy to clean;
- (c) have at least five air changes per hour;
- (d) have lighting with a minimum intensity of 100 Lux;
- (e) be cleaned at least once every working day;
- (f) have tables of such size that an area of at least 0,25 m² is provided for each person;
- (g) have seats with backs or benches with backs, providing a width of at least 0,5 m for each person.

(10) The canteen may be used as a restroom.

(11) Appropriate measures must be taken to protect non-smokers against discomfort caused by tobacco smoke when they are resting or eating.

PART C

SPECIAL MINIMUM REQUIREMENTS APPLICABLE TO SURFACE MINERAL-EXTRACTING INDUSTRIES

General

26. – (1) Without prejudice to paragraphs (2) to (4) of regulation 4, the employer who, in accordance with existing legislation and practice, is responsible for the workplace shall ensure that the health and safety document demonstrates that all relevant measures have been taken to protect the health and safety of employees in both normal and critical situations.

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

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

Operation

27. – (1) Work must be planned taking into account those elements of the health and safety document which concern the risks of falls or slips of ground.

(2) 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.

(3) Benches and haul roads must be:-

- (a) stable enough for the plant used; and
- (b) constructed and maintained in such a way that plant can be moved safely.

(4) 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.

(5) Scaling must be carried out where necessary.

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

PART D

SPECIAL MINIMUM REQUIREMENTS APPLICABLE TO UNDERGROUND MINERAL-EXTRACTING INDUSTRIES

General

28. – (1) Without prejudice to paragraphs (2) to (4) of regulation 4, the employer who, in accordance with existing legislation and practice, is responsible for the workplace shall ensure that the health and safety document demonstrates that all relevant measures have been taken to protect the health and safety of employees in both normal and critical situations.

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

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

Plans of underground workings

29. – (1) Plans of underground workings drawn to a scale which provides a clear representation must be prepared.

(2) In addition to roadways and winning areas, the plans must show the known features which may affect the work or the safety of employees.

(3) The plans must be readily accessible and kept for as long as is necessary for safety purposes.

(4) The plans must be brought up to date periodically and be available at the workplace.

Outlets

30. – (1) All underground workings must have access to the surface via at least two separate outlets which are soundly constructed and readily accessible to underground employees.

(2) Mechanical man-winding or man-riding facilities must be available for the outlets if considerable physical effort would otherwise be involved in using them.

Workings

31. – (1) Workings where underground work is carried out must be constructed, operated, equipped and maintained so that employees can work and move around in them with a minimum of risk.

(2) Roadways must be sign-posted to help employees to find their way around the workings.

Transport

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

(2) Mechanical man-winding or man-riding facilities must be properly installed and used in accordance with written instructions.

Support and ground stability

33. – (1) Support must be provided as soon as possible after excavation, except where the stability of the ground makes it unnecessary for the safety of employees.

(2) Support must be installed in accordance with plans and written instructions.

(3) Workings accessible to employees must be inspected regularly for ground stability and support maintained accordingly.

Ventilation

34. – (1) All underground workings to which access is permitted must be ventilated in an appropriate manner.

(2) Continuous ventilation must be provided to maintain, with an adequate safety margin:-

- (a) a healthy atmosphere;
- (b) an atmosphere in which the risks of explosion and respirable dust are kept under control;
- (c) 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 employees.

(3) Where the requirements of sub-paragraphs (1) and (2) above cannot be met by natural ventilation:-

- (a) the main ventilation must be provided by means of one or more mechanical fans;

- (b) steps must be taken to ensure they provide stable and continuous ventilation;
- (c) the fans must be monitored continuously; and
- (d) an automatic alarm must be installed to indicate unscheduled stoppages.

(4) The ventilation parameters must be measured periodically and recorded.

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

Gassy mines

35. – (1) An underground working shall be 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.

(2) The main ventilation must be provided by one or more mechanical fans.

(3) Working such mines must proceed taking into account firedamp emission.

(4) Steps must be taken to eliminate, as far as possible, the risks arising from firedamp.

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

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

(7) The ventilation measurements required by paragraph 34(4) must be supplemented by firedamp measurements.

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

(9) Only those explosives and initiating devices which are specifically intended for use for gassy mines may be used.

(10) Sub-paragraphs (4) and (5) of paragraph 5 shall not apply.

(11) Subject to sub-paragraph (12) below, smoking, carrying tobacco for smoking and carrying any other objects which may be used to produce a flame are prohibited.

(12) Flame cutting, welding and other similar operations are permitted only in exceptional circumstances and only where specific measures are taken to ensure the health and safety of the employees.

Mines and quarries containing flammable dusts

36. – (1) Coal mines shall be considered to be susceptible to flammable dusts except where the health and safety document shows that none of the seams being worked contains dust liable to propagate an explosion.

(2) In mines with flammable dusts the provisions of sub-paragraphs (9) to (12) of paragraph 35 shall apply, mutatis mutandis.

(3) Steps must be taken to reduce flammable dust deposits, and to remove, neutralise or bind the same.

(4) Propagation of flammable dust or firedamp explosions which are liable to trigger further flammable dust explosions must be limited by installing a system of explosion barriers.

(5) The locations of explosion barriers must be indicated in a document which must be brought up to date periodically and be available at the workplace.

Gas outbursts, rockbursts and water inrushes

37. – (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 employees.

(2) Measures must be taken to:-

- (a) identify risk zones;
- (b) protect employees in workings approaching or traversing these zones; and
- (c) control the risks.

Fires, combustions and heatings

38. – (1) Provision must be made for the prevention and, where appropriate, the early detection of spontaneous combustion.

(2) Flammable materials taken into underground workings must be limited to the quantities which are necessary.

(3) Where it is necessary to use hydraulic fluids (fluids for the transmission of hydrostatic or hydrokinetic mechanical energy), they must, so far as is practicable:-

- (a) be fluids which are difficult to ignite, in order to avoid the risk of fire and its spread; and
- (b) satisfy specifications and test conditions relating to fire resistance and hygiene criteria.

(4) Where hydraulic fluids are used which do not satisfy the specifications, test conditions and criteria referred to in sub-paragraph (3) above, additional precautions must be taken to avoid the increased risk of fire and its spread.

Precautions for withdrawal of employees

39. – (1) In order to enable employees to withdraw safely, they must be provided, where necessary, with self-rescue respiratory protection devices which they must always keep within their reach.

(2) Employees must be trained in the use of self-rescue respiratory protection devices.

(3) The self-rescue respiratory protection devices must be:-

- (a) kept at the site; and
- (b) checked regularly, to ensure that they are in good condition.

Lighting

40. – (1) The provisions of paragraph 14 shall not apply.

(2) Employees must be provided with a suitable personal lamp.

(3) Workstations must be equipped, so far as is practicable, with artificial lighting adequate for the protection of employees' health and safety.

(4) Lighting installations must be positioned in such a way that there is no risk of accident to employees as a result of the type of lighting fitted.

Underground workforce accounting

41. Appropriate arrangements must be put in place to ensure that it is possible to know who is underground at all times.

Rescue organisation

42. – (1) In order to enable suitable action to be taken rapidly and effectively in the event of a major incident, an adequate rescue organisation must be established.

(2) The rescue organisation must have a sufficient number of suitably trained rescue employees and adequate rescue equipment at its disposal in order to be able to intervene at any site where underground extraction or exploratory workings are in progress.

TABLE 1

(Paragraph 14(7))

LIGHTING

Column 1	Column 2
Type of workplace	Minimum light intensity (Lux*)
Outdoor (such as yards or places equipped with emergency safety lighting)	20
Large and open** (such as storage areas, passageways, stairways)	50
Small and open (such as packing areas, cleaning areas)	100
Intermediate (such as machine plant)	200
Special (such as control rooms, offices)	500
Particular (such as technical drawing rooms, other areas where precision work is carried out)	1000

* Light intensity when measured at a horizontal level 1 m above the ground or floor.

** In this Table “open” means not enclosed.

TABLE 2

(Paragraph 16(6))

WASHING FACILITIES

Column 1	Column 2
Number of employees interrupting work at the same time	Minimum number of washbasins
Up to 7	1
8 to 14	2
Per 10 more	1

TABLE 3

(Paragraph 17(2) and (3))

SANITARY CONVENIENCES**Part A - Males**

Column 1	Column 2	Column 3
Number of male employees	Minimum number of lavatories	Minimum number of latrines
Up to 15	1	1
16 to 25	1	2
26 to 50	2	3
51 to 75	3	4
Per 35 more	1	1

Part B - Females

Column 1	Column 2
Number of female employees	Minimum number of lavatories
Up to 15	1
16 to 30	2
31 to 50	3
51 to 70	4
Per 30 more	1

TABLE 4

(Paragraph 23(3))

VENTILATION

Column 1	Column 2
Type of workplace	Minimum number of air changes per hour
Large (where the ceiling height exceeds 5 m)	1
Open* (such as repair workshops, storage areas, changing areas)	3
Enclosed (such as engineering workshops, boiler rooms, engine rooms, shower rooms, sanitary conveniences, smelting works, kitchens, canteens)	5
Special (such as internal rooms where heavy or hot work is carried out)	10

* In this Table "Open" means not enclosed.

TABLE 5

(Paragraph 24(4)(a) and (5)(a))

TEMPERATURE

Maximum limits of safe exposure to heat

Column 1	Column 2
Work load	Maximum corrected effective temperature (centigrade)
Sedentary work 2.6 Kcal/Kg/h	30.0
Light/intermediate 4-3 Kcal/Kg/h	28.0
Heavy 6 Kcal/Kg/h	26.5

Dated this 28th day of March 2003.

By the Administrator's Command,
J.C.A. JARVIS CBE,
Chief Officer,
Sovereign Base Areas.

(107/6)
