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REGULATIONS FOR THE HEALTH, SAFETY AND WELFARE OF PERSONS EMPLOYED
OR OTHERWISE PRESENT IN OR AT MINES

The Minister has, under section 138A of the Minerals (Prospecting and Mining) Amendment Act, 1997, made the regulations set out in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

PART I

PRELIMINARY PROVISIONS

- 1 Definitions
- 2 Application of regulations

PART II

ADMINISTRATION OF REGULATIONS

- 3 Appointment of Chief Inspector of Mines and other inspectors of mines
- 4 General powers of inspectors
- 5 Appointment of mine managers

PART III

ESTABLISHMENT AND POWERS, DUTIES AND FUNCTIONS OF MINING COMMITTEE

- 6 Establishment of Mining Board
- 7 Functions of Mining Board
- 8 Constitution of Mining Board
- 9 Terms of office and conditions of service of members of Mining Board
- 10 Vacation of offices by members of Mining Board
- 11 Meetings of Mining Board and decisions
- 12 Performance of administrative functions of Mining Board
- 13 Powers of Mining Committee
- 14 Recovery of costs

PART IV

GENERAL DUTIES AND RESPONSIBILITIES OF OWNERS OF MINES, MINE MANAGERS AND PERSONS
EMPLOYED OR OTHERWISE PRESENT IN OR AT MINES

- 15 Provision of funds and facilities by owners of mines to ensure safety, health and welfare of persons employed or otherwise present in or at mines
- 16 General duties and responsibilities of mine managers
- 17 Posting of notices
- 18 Entry upon mines by unauthorized persons
- 19 Representations of workplace safety committees and workplace safety representatives
- 20 Duties of persons employed or otherwise present in or at mines
- 21 General duties of designers, manufacturers, importers or suppliers of articles and substances for use at work in mines

22 Powers of chief inspector to issue certain orders

PART V
MINE PLANS AND SURVEYS AND PEG INDEX REGISTERS

23 Mine plans

24 General requirements of plans

25 Mine surveys

26 Peg index registers

27 General requirements relating to mine plans and surveys

PART VI
ACCIDENTS, DANGEROUS OCCURRENCES AND DISEASES

28 Notice of accidents or dangerous occurrences

29 Disturbance of places of accidents

30 Inquiries into accidents by mine managers

31 Inquiries into accidents by chief inspector

32 Attendance and examination of witnesses at inquiries held by chief inspector

33 Obstruction of inquiry or investigating officer or failure to render assistance

34 Records of accidents

35 Notices of diseases

PART VII
OUTLETS, TRAVELLINGWAYS AND LADDERWAYS

36 Outlets for purposes of travelling to and from surface

37 Underground connections to outlets

38 Ladders and ladderways

39 Loose objects carried in ladderways

40 Scheme for the examination and maintenance of outlets

PART VIII
MINE WORKING

41 Opencast workings

42 Underground workings

43 Scheme for support of roofs, hanging walls, footwalls and sides of roadways, travelling ways and workplaces

44 Scheme to regulate excavation and loading operations

45 Workings beneath and in vicinity of railways, roads, buildings or other structures

46 Stability of excavations

47 Workings near mine boundaries

48 Waiting places

49 Fencing and gates

50 Guards and handrails

51 Use of lifeline or life jacket

- 52 Steeply inclined workings
- 53 Surge stockpiles
- 54 Chute loading installations and rock passes
- 55 Restricted overhead clearance
- 56 Protection on surface from flooding
- 57 Scheme for working under or in vicinity of a body of water
- 58 Abnormal seepage of water
- 59 Construction of reservoirs, dams or other structures
- 60 Drains
- 61 Intentional flooding
- 62 Dumps and tailing dams
- 63 Scheme for regulation of dumping operations
- 64 Shaft sinking
- 65 Scheme for sinking operations
- 66 General requirements relating to persons at work in or at mines

PART IX
VENTILATION, GASES AND DUST

- 67 Ventilation
- 68 Heat and humidity
- 69 Quantity and velocity of air in underground workings
- 70 Main ventilating fans
- 71 Scheme for control and operation of ventilating fans
- 72 Auxiliary fans in underground workings
- 73 Unventilated areas to be barricaded
- 74 Entry to pits, tanks, manholes, vessels or chambers
- 75 Provision of flues
- 76 Prevention of air pollution
- 77 Detection of flammable gas in underground workings
- 78 Scheme for control of airborne dust
- 79 Dust control
- 80 Air monitoring
- 81 Ventilation plan

PART X
EXPLOSIVES AND BLASTING

- 82 Transport, use, storage and distribution of explosives in, on or at mines
- 83 Explosives to be used in or at mines
- 84 Storage of explosives
- 85 Scheme for conveyance and use of explosives

- 86 Keeping of explosives near workings
- 87 Blasters
- 88 Blasting tools
- 89 Marking, drilling, charging, tamping and blasting
- 90 Electric blasting
- 91 Examination after blasting
- 92 Disposal of old, deteriorated or damaged explosives
- 93 General safeguards in relation to handling of explosives
- 94 Explosives not to be left unattended

PART XI
BLASTING CERTIFICATES

- 95 Issue of blasting certificates
- 96 Types of blasting certificates
- 97 Qualifications for blasting certificates
- 98 Duplicate blasting certificates
- 99 Suspension or cancellation of blasting certificates

PART XII
LIGHTING

- 100 General lighting
- 101 Emergency lighting
- 102 Carrying of lights in underground workings
- 103 Illumination of machinery
- 104 Lighting arrangements in respect of mobile equipment
- 105 Illumination of haul roads
- 106 Standards of lighting

PART XIII
WINDING

- 107 General requirements of winding installations
- 108 Winding engines and installations
- 109 Availability of winders
- 110 Depth indicators
- 111 Speed indicator and tachograph
- 112 Speed control
- 113 Overwind preventer
- 114 Winder brakes
- 115 Control selection
- 116 Emergency stop switch
- 117 Acceleration control
- 118 Backing out devices

- 119 Flanges or horns
- 120 Minimum turns of rope on drum
- 121 Drum and head sheave
- 122 Driving sheave
- 123 Deflection sheave
- 124 Slip and direction indicator
- 125 Operating levers
- 126 Locking devices
- 127 Ropes bars, links, chains or other connections
- 128 Particulars of ropes
- 129 History of ropes
- 130 Requirements for winding ropes
- 131 Requirements for balance ropes
- 132 Rope testing and examination
- 133 Periods of service of ropes
- 134 Guide ropes
- 135 Shaft conveyances
- 136 Attachments between ropes and conveyances
- 137 Examination and annealing or heat treatment of attachments
- 138 Detaching hooks
- 139 Spring keps or jack catches
- 140 Retarding device
- 141 Conveyance of persons and material
- 142 Shaft conveyances, embarking and disembarking facilities
- 143 Restriction on conveyance of persons with one drum out of gear
- 144 Application of brakes
- 145 Ratio of person or material load to rock load
- 146 Loading limitation
- 147 Scheme for examination of winding installations, shaft fittings and shaft signalling arrangements
- 148 trail run after repairs to winding installation
- 149 Drivers logbook
- 150 Winding during repairs in shafts
- 151 Scheme for shaft repairs
- 152 Shaft signalling systems
- 153 Electric signalling arrangements
- 154 Code of signals
- 155 Code of signals to be posted up

- 156 Use of conveyances
- 157 Giving of signals
- 158 Radio communication devices
- 159 Entry in winding engine rooms
- 160 Scheme for regulating winding operations

PART XIV
HAULAGE AND TRANSPORT

- 161 Scheme for regulating movement of vehicles
- 162 Scheme for examining and maintaining haulage systems
- 163 Locomotives
- 164 Trackless vehicles
- 165 Driving of vehicles
- 166 Scheme for safe conduct of haulage operations
- 167 Mine roads
- 168 Conveyors

PART XV
MACHINERY

- 169 Design, use, operation, supervision and control of machinery
- 170 Scheme for examination and testing of machinery
- 171 Starting and stopping of machinery
- 172 Safety measures during repairs, maintenance or cleaning of machinery
- 173 Fencing and guards
- 174 Engines to be used in underground workings
- 175 General duties of operators

PART XVI
ELECTRICITY

- 176 Selection and installation of apparatus
- 177 Electrical control gear
- 178 Diagram of electrical equipment
- 179 Posting of notices
- 180 Switch and transformer premises
- 181 Scheme for installation and use of electrical apparatus
- 182 Earthing
- 183 Earth leakage protection
- 184 Lightning protection
- 185 Cable installation
- 186 Flexible cable or trailing cable
- 187 Signal and telephone cables
- 188 Operation of electrical apparatus

189 Precautions in explosive or flammable atmosphere

PART XVII
PROTECTIVE EQUIPMENT, CLOTHING AND DEVICES

190 Scheme to identify hazards

191 Protective equipment

192 Noise

193 Dust

194 Radioactivity

195 Vibration

196 Prevention of accidents in handling electrical apparatus

197 Hot and molten material

198 Replacement of protective equipment, clothing or devices

199 Keeping of antidotes, washes and devices

200 Access to poisons

201 Insufficient or inadequate protective equipment, clothing or devices

202 Sanitation

203 Waiting places

204 Eating places

205 Drinking water

206 Change houses

207 Intoxicating drugs and drinks

PART XVIII
MINE FIRES

208 Fire fighting

209 Precautions against fire

210 Storage of flammable or combustible substance

211 Conveyor belts

212 Fire-fighting equipment

213 Procedure in case of fire

214 Fire-fighting plan

PART XIX
FIRST AID

215 First aid centre

216 First aid stations

217 First aiders

218 Reporting and recording of injuries

219 Scheme for obtaining assistance

PART XX
UNDERWATER MINING

- 220 Scheme for safe conduct of diving operations
- 221 Control of diving operations
- 222 Compression chamber and bell
- 223 Equipment and machinery
- 224 Diving at depths exceeding 100 metres
- 225 Mining by means of pressurized vessels

PART XXI
APPEALS

- 226 Appeal against orders issued by chief inspector
- 227 Procedure to be followed by Mining Board
- 228 Decision of Mining Board
- 229 Appellant to pay cost in certain cases

PART XXII
MISCELLANEOUS

- 230 Exemptions
- 231 General safety
- 232 Offences and penalties
- 233 Service of documents
- 234 Implementation of mine managers schemes
- 235 Maintenance and production of registers and records
- 236 Repeal and saving
- 237 Short title and commencement

PART I
PRELIMINARY PROVISIONS (regs 1-2)

1 Definitions

In these Regulations, any word to which a meaning has been assigned to in the Minerals (Prospecting and Mining) Act, 1992 (Act 33 of 1992) (hereinafter in these Regulations referred to as the Minerals Act), shall have that meaning and, unless the context indicates otherwise-

"**accredited agent**" means a person designated in accordance with the provisions of section 121 of the Minerals Act as the accredited agent for the holder of a mining licence or a mining claim;

"**attachments**", in relation to a shaft conveyance, anything suspended from or attached to a conveyance other than the winding rope or a balance or tail rope;

"**bank**", in relation to a shaft, means the uppermost station;

"**banksman**" means a competent person duly authorized to supervise the lowering and raising of persons, material or rock in a conveyance at the bank and to give the necessary signals;

"**bell**", in relation to underwater mining, means a compartment either at ambient pressure (open bell) or pressurized (closed bell) by means of which a diver can be transported to and from the underwater work site, which allows the diver access to the surrounding environment, and which is capable of being used as a refuge during diving operations; "blaster" means a competent person who is in possession of a blasting certificate; "blasting certificate" means a blasting certificate issued under the provisions of Part XI;

"**bottom time**" means the time in minutes which elapses from the time when the diver dives from the surface of the water towards the underwater workplace until such time as he or she commences his or her ascent from the underwater workplace towards the surface of the water;

"**breathing mixture**" means air or gas which is fit for breathing at ambient pressure;

"**buddy line**" means a line not exceeding five metres in length and with a breaking strength of at least 500 N which is used for securely connecting two divers to each other during a dive;

"**charge**" means explosive or blasting agent or an explosive and a blasting agent placed in a drill hole or other position for the purpose of producing an explosion and "to charge" shall have a corresponding meaning;

"**chief inspector**" means the Chief Inspector of Mines appointed under regulation

"**circuit**" means an electrical circuit forming a system or branch of a system; competent person" means a person -

- (a) who is qualified by virtue of his or her knowledge of, and training, skills and experience in, in any matter in respect of which he or she is required to be a competent person; and
- (b) who is familiar with the provisions of these Regulations or any other law which apply to the work to be performed; and
- (c) who is trained to recognize any potential or actual danger to the health and safety in the performance of the work;

"**compression chamber**" means a pressure vessel for human occupation having internal dimensions sufficient to accommodate at least one diver lying in a horizontal position as well as one other person, and which allows the ingress and egress of personnel while the occupants are under pressure;

"**conductor**" means an electrical conductor arranged to be electrically connected to a system;

"**conveyance**", in relation to a shaft, means any cage, skip, bucket, kibble, stage or any other receptacle or structure attached to or suspended from a winding rope and operated by a winder and intended to serve as a means of raising or lowering persons, material or rock;

"**danger**" means danger to health, life or limb;

"**detonator**" means a device containing high explosive which upon ignition will explode itself and which is used to initiate the explosion of a charge;

"**dive**" means any dive performed by divers from the control point on the surface of the water to any point under the surface of the water and back to the control point;

"**diver**" means a competent person who is in possession of a valid certificate of fitness granted by a medical practitioner,

"**diving mode**" means a dive requiring scuba, surface-supplied air, or surface-supplied mixed gas equipment with related procedures and techniques;

"**diving operation**" means all activities of a diving team in preparation for, during and after a dive;

"**diving team**" means the divers, standby divers, and diver support personnel involved in a diving operation, including the line attendant, live-support technician and such other persons as are necessary to man any machinery and equipment which may be required before, during and after a dive;

"**diving time**" means the time in minutes which elapses from the time when a diver dives from the surface of the water until he or she is again exposed to atmospheric pressure after a dive;

"**earthed**" means connected to the general mass of the earth in such manner as will ensure at all times an immediate discharge of electrical energy without danger;

"**effective combined weight**" means the static weight resulting from the mass of any load where winding is conducted in a vertical plane and it shall be 1,05 times the incline component of this static weight where winding is conducted in an inclined plane;

"**electrical apparatus**" includes electric cables and any part of any machine, apparatus or appliance being a part designed for the generation, conversion, storage, transmission or utilisation of electricity;

"**excavation**" means any trench, pit, quarry, shaft or other open or underground working made in the course of mining operations, prospecting operations or quarrying operations, as the case may be, excluding any superficial excavations made for purposes of geochemical soil and rock sampling;

"**explosives**" means explosives as defined in section 1 of the Explosives Act, 1956 (Act 26 of 1956);

"**explosive magazine**" means an explosive magazine as defined in section 1 of the Explosives Act, 1956 (Act 26 of 1956);

"**face**" means the moving front of any workings;

"**factor of safety**", in relation to any rope or part of machinery, means the ratio of the breaking force or strength of that rope or part of machinery to the maximum total static force on it including the component of its own weight;

"**flexible cable**" means a cable having flexible insulated conductors and earthing conductors within a protective sheath, but shall not include signalling cable, telephone cable, blasting cable or flexible electric cord used with electrical apparatus at a voltage not exceeding 250 volts AC on a single-phase system;

"**guidelines**" means any guideline or instruction issued under section 1386 of the Minerals Act;

"**inspector**" means an inspector of mines appointed under regulation 3(1)(a)(ii), and includes the chief inspector

"**insulated**" means covered with insulating material of such thickness and properties that will prevent the flow of electrical energy between the object so covered and its surroundings or any external object in contact with it;

"**isolated**" means disconnected from the normal source of energy;

"**ladderway**" means any shaft, raise or winze in which permanent ladders are installed for the use of persons ascending or descending thereon;

"**lifeline**" means a line at least eight millimetres in diameter and with a minimum breaking strength of five kilonewtons, one end of which is fastened at the control point on the surface of the water and the other end of which is secured to the diver during a dive;

"**line attendant**" means a competent person who has been trained in the use of diving signals, life-lines, service telephones and other service cables;

"**live**" means electrically energized;

"**locked out**" means the isolation of machinery or electrical apparatus by means of a device which can be physically locked so as to prevent the unintentional movement or energising of the equipment;

"**machinery**" means -

(a) any article or combination of articles assembled, arranged or connected and which is used or intended to be used for converting any form of energy into performing work, or which is used or intended to be used, whether incidental thereto or not, for developing, receiving, storing, containing, transforming, transmitting, transferring or controlling any form of energy;

(b) any appliance or combination of appliances declared by the Minister by notice in the *Gazette* to be machinery for the purposes of these Regulations;

"**material**" means anything, except persons or rock, conveyed or to be conveyed by means of a winder;

"**mine**" means a mine as defined in part I of the Minerals (Prospecting and Mining) Act, 1992 (Act 33 of 1992);

"**mine manager**" means a mine manager or acting mine manager appointed in terms of regulation 5(1)(a) and includes the owner of a mine who himself or herself acts as mine manager or acting mine manager in terms of regulation 5(1)(b);

"**Mining Board**" means the Mining Board established by regulation 6;

"**misfire**", in relation to a charge, means a charge which has failed to explode either wholly or in part;

"**onsetter**" means a competent person duly authorized to be in charge of a shaft conveyance in which persons, material or rock are lowered or raised from any station below the bank and to give the necessary signals;

"**opencast workings**" means any workings below the surface of the ground, excluding underground workings and any trench, pit or other such excavation;

"**owner**", in relation to a mine, means the holder of a mining licence or a mining claim, and includes the accredited agent for such a holder and a person to whom an interest in such mining licence or mining claim has been granted, ceded or assigned in terms of the provisions of the Minerals Act;

"**raise**" means any tunnel in a mine having an inclination of more than 10 above the horizontal and which is not included under the definition of "ramp" or "shaft";

"**ramp**" means any roadway inclined above or below the horizontal especially designed for the movement of trackless vehicles;

"**rock**" means any portion of the earth's crust whether consolidated or not;

"**safety fuse**" means a fuse for blasting which -

- (a) burns but does not explode; and
- (b) does not contain its own means of ignition;

"**scuba**" means self-contained underwater breathing apparatus in which the supply of breathing mixture carried by the diver is independent of any other source;

"**shaft**" means a vertical or inclined excavation of limited area compared with its depth, leading from the surface to underground workings or from one part of the underground workings to another made for -

- (a) mining minerals;
- (b) raising and lowering persons, material or rock; or
- (c) ventilating underground workings;

"**shot hole**" means any drill hole charged or intended to be charged;

"**socket**" means the remaining or enlarged portion of a drill hole after a charge has been fired

"**standby diver**" means a diver who is competent to dive to the maximum depth required by the particular diving operation with the aid of the diving equipment in use, and who is not prevented from diving by an excess of inert gas in his or her system;

"**station**", in relation to a shaft means any floor, platform or landing which is an authorized stopping place for a convenience;

"**steeply inclined**", in relation to any excavation means an inclination of more than 35 degrees to the horizontal;

"**stope**" means an underground excavation made by the removal of any ground or mineral other than coal, but does not apply to excavations made for engine rooms and pump chambers or for development purposes such as shafts, drives, winzes and raises;

"**survey station**" means a point which has been surveyed within the limits of the allowable error prescribed under the regulations;

"**system**" means an electrical system in which all the conductors and apparatus are electrically connected to a common source of electromotive force;

"**tailings**" means any waste rock, shales or residue derived from any mining operation or processing of any mineral;

"**these Regulations**" include any guideline;

"**toxic**" means any substance in such concentration as is capable of causing injury to or harmful pathological change in any part of a person by absorption or inhalation;

"**trackless vehicle**" means any vehicle having wheels, tracks or skids, self-propelled or otherwise, which does not run on rails;

"**trailing cable**" means any flexible cable used to supply power to any mobile machine and which is dragged across the ground;

"**underground**" means any place in a mine under the natural surface of the earth which is solely connected to the surface by means of an adit, ramp or shaft, including such adit, ramp or shaft;

"**underground workings**" means any workings below the natural surface of the earth, access to which is by means of an adit, ramp or shaft, but excludes opencast workings;

"**underwater workplace**" means the point or place under the surface of the water where a diving operation is undertaken;

"**ventilating district**", in relation to a mine in which underground workings are being carried on, means -

- (a) in the case of a mine other than a mine which is ventilated by natural means, such part of such mine as has an independent intake commencing from a main intake airway and an independent return terminating at a main return airway; and
- (b) in the case of a mine which is ventilated by natural means, the whole of such mine or such part thereof as is so ventilated;

"**voltage**" means the difference of electrical potential between any two conductors, or between a conductor and earth and shall be classified as follows -

- (a) extra low: normally not exceeding 48 volts AC;
- (b) low: normally exceeding 48 volts AC, but not exceeding 250 volts;
- (c) medium: normally exceeding 250 volts AC, but not exceeding 650 volts;
- (d) high: normally exceeding 650 volts AC, but not exceeding 6600 volts;
- (e) extra high: normally exceeding 6600 volts AC;

"**warning signal**" means -

- (a) by day, flag A as defined in the International Code of Signals; and
- (b) by night, the lights as defined in the International Regulations for Preventing Collision at Sea, 1993;

"**winder**" means the machinery used to raise or lower by means of a rope or ropes any conveyance in a shaft for the conveyance of persons, material or rock, but excluding any lifting machine, endless rope haulage or scraper winch installation;

"**winze**" means any tunnel in a mine having an inclination of more than 10 below the horizontal and which is not included under the definition of "ramp" or "shaft";

"**workings**" means any part of a mine, whether on surface or underground, which has been excavated or is in the process of being excavated;

"**workplace**" means any place at a mine to which access has been authorized;

"**work injury**" means any injury suffered by a person which arises out of and in the course of his or her employment; the word injury shall be construed to include also occupational disease and work-connected disability.

2 Application of these Regulations

(1) These Regulations shall apply to, and in respect of, any mine in Namibia.

(2) The Minister may from time to time generally by notice in the *Gazette* or, in relation to any particular case, by notice in writing to the person concerned, declare that any or all of the provisions of these Regulations shall apply to prospecting operations in order to ensure safety, health and welfare of persons employed or otherwise present in or at prospecting areas, and may by like notice amend or withdraw such notice.

(3) In the application of any provision of these Regulations by virtue of a notice issued in terms of subregulation (2), a reference to the expressions "mine" and "mining operations" shall, unless it would appear to be clearly inappropriate, be construed as references to "prospecting area" or "prospecting operations", respectively.

PART II

ADMINISTRATION OF THESE REGULATIONS (regs 3-5)

3 Appointment of Chief Inspector of Mines and other inspectors of mines

(1)(a) The Minister shall, subject to the laws governing the public service, appoint -

- (i) a competent person to be known as the Chief Inspector of Mines or, during the absence or incapacity of the chief inspector to exercise or perform his or her powers, duties or functions, an acting chief inspector of mines, who shall be

charged, subject to the control of the Minister and the instructions and directives of the Permanent Secretary, with the administration of these Regulations, and shall exercise or perform the powers, duties and functions conferred or imposed upon the chief inspector by or under the provisions of these Regulations or any other law and such other functions as may be imposed upon him or her by the Minister;

- (ii) such number of competent persons to be known as Inspectors of Mines (or such other designation as may be determined by the Permanent Secretary) as the Minister may deem necessary for purposes of the effective application of these Regulations, who shall exercise or perform, subject to the direction and control of the Minister, the powers, duties and functions conferred or imposed upon any inspector by or under the provisions of these Regulations or any other law and such other functions as may be imposed upon any such inspector by the Minister.

- (b) An inspector shall at the time of his or her appointment be furnished with a certificate signed by the Permanent Secretary stating that he or she has been appointed as an inspector.

(2) The powers conferred and the duties and functions imposed upon the chief inspector by or under the provisions of these Regulations or any other law may be exercised or performed by the chief inspector personally or, except in so far as the chief inspector otherwise determines, by any inspector engaged in carrying out such provisions under the direction and control of the chief inspector.

4 General powers of inspectors

(1) In addition to the powers conferred upon an inspector under these Regulations or any other law, an inspector may, for purposes of the administration of these Regulations -

- (a) *mutatis mutandis* in accordance with the provisions of Chapter 2 and 3 of the Criminal Procedure Act, 1977 (Act 51 of 1977), at any reasonable time and without prior notice -
 - (i) enter, without any limitations as to the indemnification of the owner of the mine or any other person connected with the mine, any place in or at a mine in connection with any matter to which the Minerals Act and these Regulations relates;
 - (ii) search for any book, writing or other document or any other thing so used by the mine manager of such mine or any other person employed or otherwise present in or at such mine;
 - (iii) seize, or make any copy of, or extract from, any such book, writing, document or thing,

as if such inspector were a police official referred to in the said Criminal Procedure Act, 1977, and such book, writing or other document or such thing were concerned in the commission of any offence in terms of the Minerals Act or these Regulations;

- (b) take such step as he or she may deem necessary in order to ascertain whether the body of any person shows any condition, including the taking of blood samples by a district surgeon;
- (c) question any person employed or otherwise present in or at any mine so entered upon, in connection with any matter to which the Minerals Act or these Regulations relates'
- (d) direct that such mine or any part thereof or anything therein or thereon be left undisturbed, whether generally or in any particular respects, for as long as it is reasonably necessary to search such premises for any book, writing or other document or thing, in connection with any matter to which the Minerals Act or these Regulations relates;
- (e) require any person who has control over, or custody of, any such book, writing or other document or thing prepared or used in connection with any matter to which the Minerals Act or these Regulations relates, to produce such book, writing or other document or thing to him or her forthwith or at such time and place as may be determined by such inspector by notice in writing to such person;
- (f) examine any such book, writing or other document or thing;

- (g) require from any person referred to in paragraph (d) an explanation of any entry in any such book, writing or other document or thing;
- (h) order any person by notice in writing to such person to appear before him or her at such time and place as may be specified in such notice in connection with any matter to which the Minerals Act or these Regulations relates and question any such person on any such matter;
- (i) give directions in connection with the posting of any notices required under the Minerals Act or these Regulations to be posted in or at any mine;
- (j) take such measurements, recordings and photographs and make such readings as he or she considers necessary for the purposes of an inquiry in terms of the Minerals Act or these Regulations;
- (k) take samples of any article or substance found in or at any mine which he or she has power to enter, and of the atmosphere in or in the vicinity of any mine, and in the case of an article or substance which appears to him or her to be likely to cause immediate danger to health or safety to cause it to be dismantled or subjected to any process test, and to take possession of it for so long as is necessary for the purposes of examining it and doing anything which he or she is empowered to do with it;

(1) require a member of the Namibian Police Force, or request any other person, to assist him or her as an interpreter or otherwise in exercising or performing his or her powers, duties or functions under the Minerals Act or these Regulations.

(2) When an inspector exercises or performs a power or duty under the Minerals Act or these Regulations in the presence of any person affected thereby, the inspector shall on demand by any such person produce to him or her the certificate issued to such inspector in terms of section 3(1)(b).

(3) A member of the Namibian Police Force required, or any other person requested, by an inspector to assist him or her as provided in paragraph (k) of subregulation (1) may accompany such inspector in the exercise of his or her powers or the performance of his or her duties or functions under the Minerals Act or these Regulations as if such member or person were an inspector.

(4) The mine manager shall at all times furnish such facilities and equipment as are reasonably required by an inspector in order to enable him or her to exercise or perform effectively the powers and duties to be exercised or performed by him or her under the Minerals Act or these Regulations in or at the mine.

(5) Whenever any work has been given out on contract by the owner of a mine or the mine manager to any contractor, any inspector may exercise in relation to that contractor or any subcontractor of such contractor or any person employed by such contractor or subcontractor all the powers conferred upon an inspector by this regulation in relation to a mine.

5 Appointment of mine managers

(1) The owner or owners of a mine-

- (a) shall appoint, and at all times have, a competent person as mine manager or, during the absence or incapacity of the mine manager to exercise or perform his or her powers, duties or functions, such other person as acting mine manager;
- (b) may, if such owner is a natural person, himself or herself act, or, in the case of a mine owned by two or more persons, designate from amongst their number one person to act, as mine manager or acting mine manager in respect of such mine as if he or she were appointed in terms of paragraph (a) as mine manager.

(2) The owner of a mine referred to in subregulation (1) shall inform the chief inspector, in such form as may be determined by the chief inspector, of -

- (a) the opening or re-opening of a mine by virtue of any mineral licence;
- (b) the appointment of a mine manager in terms of subregulation (1) or, in the case of any such owner who is a natural person and the sole owner of such mine, of the fact that he or she has elected to act himself or herself as manager of the mine concerned;
- (c) the termination of any appointment referred to in paragraph (b);

(d) the change of ownership or name of such mine,

within a period of 30 days or such longer period as the chief inspector may allow after such opening, re-opening, appointment, termination or change.

(3) The owner of a mine or, in the case of a company which is the owner of a mine, any director of such company who or which fails to comply with the provisions of this regulation shall for purposes of these Regulations be deemed to be the mine manager or mine managers, as the case may be, and to be responsible for the performance or carrying out of such functions and duties as may be imposed upon the mine manager by these Regulations, until such time as such owner or company complies with such provisions.

PART III

ESTABLISHMENT AND POWERS, DUTIES AND FUNCTIONS OF MINING BOARD (regs 6-14)

6 Establishment of Mining Board

There is hereby established a committee to be known as the Mining Board. Functions of Mining Board

7

The functions of the Mining Board shall be-

- (a) to consider proposals for the amendment of these Regulations or any rules made thereunder and to make recommendations thereon to the Minister;
- (b) to hear and decide any appeal against any order of the chief inspector under these Regulations;
- (c) to advise the Minister in relation to-
 - (i) the operation of these Regulations;
 - (ii) the working of mines in so far as it relates to safety, health and welfare of persons employed or otherwise present in or at such mines and to the protection of other persons, property, the environment and natural resources from hazards arising from any operations at such mines;
 - (iii) any power, duty or function which may or is required to be exercised or performed in terms of these Regulations;
 - (iv) any other matter on the safety, health and welfare of persons employed or otherwise present in or at mines which in the opinion of the Mining Board is necessary or expedient for purposes of achieving the objects of these Regulations, or which is referred to the Mining Committee by the Minister for any such purpose.

8 Constitution of Mining Board

(1) The Mining Board shall consist of-

- (a) the Permanent Secretary or any other officer other than the chief inspector designated by the Permanent Secretary, who shall be the chairperson of the Mining Board;
- (b) one person appointed by the Minister by reason of his or her special knowledge, interest and experience of occupational safety and health or safety matters and aspects of the Mining Board's functions;
- (c) four other persons appointed by the Minister of whom-
 - (i) two and their alternates are, in the opinion of the Minister, representative of the interests of registered trade unions;
 - (ii) two and their alternates are, in the opinion of the Minister, representative of the interests of registered employers' organizations,

and selected by the Minister from persons nominated in accordance with the provisions of subsection (2).

(2) For purposes of the appointment of members in terms of paragraph (c) of subregulation (1), the Minister shall from time to time invite, by notice in writing, registered trade unions and registered employers' organizations to nominate such number of persons as may be specified in

such notice who in the opinion of any such registered trade union or registered employers' organization represent their interests and are fit and proper persons to be appointed as members of the Mining Board.

(3) The Mining Board may co-opt, with the concurrence of the Minister, on such conditions as may be determined by the Minister and for such period, if any, as may be so determined from time to time, one or more persons to assist it in the performance of its functions, but such person or persons shall not be entitled to vote on any matter before the Mining Board.

9 Terms of office and conditions of service of members of Mining Board

(1) Subject to the provisions of regulation 10(2), a member of the Mining Board other than the chairperson shall hold office for a period not exceeding three years, but may be re-appointed at the expiration of that period.

(2) A member of the Mining Board who is not employed in the public service on a full-time basis shall out of moneys appropriated by law be paid such remuneration and allowances, if any, and in respect of a journey undertaken for purposes of the business of the Mining Board, such subsistence and travelling allowances as the Minister may, with the concurrence of the Minister of Finance, determine.

(3) The remuneration and allowances determined under subregulation (2), may differ according to the office held by the member of the Mining Board concerned or the functions performed by him or her.

10 Vacation of offices by members of Mining Board

(1) A member of the Mining Board shall vacate his or her office, if-

- (a) such member is by reason of his or her physical or mental illness or for any other reason incapable of acting as member of the Mining Board;
- (b) such member is convicted of an offence and sentenced to imprisonment without the option of a fine;
- (d) such member, by writing under his or her hand addressed and delivered to the Permanent Secretary, resigns from his or her office as a member of the Mining Board;
- (e) such member has absented himself or herself from two consecutive meetings of the Mining Committee without the leave of the Mining Committee.

(2) Any casual vacancy on the Mining Committee caused by the death or vacation of office by any member of the Mining Committee shall, with due regard to the provisions of regulation 8, be filled for the unexpired portion of the period of office of the member of the Mining Committee who has died or vacated his or her office, as the case may be.

11 Meetings of Mining Board and decisions

(1) A meeting of the Mining Board shall be held at such time and place as may be determined by the chairperson of the Mining Board.

(2) The majority of the members of the Mining Board shall form a quorum for a meeting of the Mining Board.

(3) The chairperson of the Mining Board shall preside at all meetings of the Mining Board at which he or she is present.

(4) When the chairperson of the Mining Board is absent from a meeting of the Mining Board the members of the Mining Board present shall elect a chairperson from among their number to act as chairperson at that meeting, and while he or she so acts he or she shall have all the powers and shall perform all the duties of the chairperson.

(5) A decision of the majority of the members of the Mining Board present at the meeting of the Mining Board shall be a decision of the Mining Board: Provided that in the event of an equality of votes the person presiding at the meeting shall have a casting vote in addition to his or her deliberative vote.

(6) No decision taken by the Mining Board or act performed under the authority of the Mining Board shall be invalid by reason only of the fact that any person who is not entitled to sit as a member of the Mining Board sat as a member of the Mining Board when the decision was taken or the act was authorized, if the decision was taken or the act was authorized by the requisite majority of the members of the Mining Board who were present at the time and entitled to sit as such members.

(7) The Mining Board shall cause a record to be kept of the proceedings of the meetings of the Mining Board.

(8) The Mining Board may make rules in relation to the holding of, and procedure at, meetings of the Mining Board.

12 Performance of administrative functions of Mining Board

(1) The administrative and clerical work involved in the performance of the functions of the Mining Board shall be performed by officers in the Ministry of Mines and Energy made available by the Permanent Secretary for that purpose.

(2) The Permanent Secretary may designate an officer referred to in subregulation (1) as secretary of the Mining Board.

13 Powers of Mining Committee

The Mining Committee may exercise such powers of inspectors under this Act as it deems necessary or expedient for the purpose of discharging its functions under this Act.

14 Recovery of costs

The Ministry may direct that the costs incurred by the Mining Committee in the hearing of appeals or in the conducting of inquiries shall be borne in whole or in part by the employer of the mine to which the appeal or inquiry relates.

PART IV

GENERAL DUTIES AND RESPONSIBILITIES OF OWNERS OF MINES, MINE MANAGERS AND PERSONS EMPLOYED OR OTHERWISE PRESENT IN OR AT MINES (regs 15-22)

15 Provision of funds and facilities by owners of mines to ensure safety, health and welfare of persons employed or otherwise present in or at mines

(1) The owner of a mine shall-

- (a) provide such funds, and take such other steps as may be necessary in order to ensure the safety, health and welfare of persons employed or otherwise present in or at such mine;
- (b) perform such other duties as may be imposed upon the owner of a mine in terms of the Minerals Act or any other law.

(2) It shall not be a defence in any proceedings brought against an owner of a mine under these Regulations that the mine manager is, in terms of these Regulations, responsible for the control, management and supervision to and the direction of persons employed or otherwise present in or at, such mine.

(3)(a) When the mine manager, accredited agent or person employed in or at a mine or, in the case of a company, the director or the owner of the mine concerned (in this section referred to as the principal) does or omits to do any act, and it would be an offence in terms of these Regulations for the principal to perform or omit to do such act himself or herself that principal shall be deemed himself, herself or itself to have done or omitted to do the act, unless he satisfies the court that-

- (i) he, she or it neither connived at nor permitted the act or omission by the mine manager, accredited agent or person employed concerned;
 - (ii) he, she or it took all reasonable steps to prevent the act or omission; and
 - (iii) an act or omission, whether lawful or unlawful, of the nature charged, on no condition or under no circumstance came within the scope of the authority or employment or duties or functions of the mine manager, accredited agent or person employed concerned.
- (b) In the application of paragraph (a)(ii) the fact that such principal issued instructions whereby an act or omission of that nature is prohibited, shall not in itself be regarded as sufficient proof that he, she or it took all reasonable steps to prevent the act or omission.
- (c) When a principal is by virtue of paragraph (a) liable for an act or omission by a mine manager, accredited agent or person employed, that manager, accredited agent or person employed shall also be liable therefor as if he or she is the principal concerned.

- (d) Paragraph (b) shall not release the mine manager, accredited agent or person employed contemplated in that subregulation from any other liability which he or she may have incurred apart from the liability which he or she shares with the principal concerned.
- (e) In the application of this regulation in criminal proceedings, evidence that any thing was at the time of the act or omission charged, in the possession or under the custody, supervision, control or care of any mine manager, accredited agent or person employed by the principal, shall be *prima facie* proof that the principal concerned is the owner of the thing concerned.

16 General duties and responsibilities of mine managers

- (1) The mine manager shall-
 - (a) be responsible for the control, management and supervision of, and the direction of persons employed or otherwise present, including any contractor or subcontractor or any person employed by any such contractor or subcontractor, in or at the mine;
 - (b) comply with any order issued by the chief inspector in terms of these Regulations;
 - (c) ensure-
 - (i) that no person work in or at a mine, unless he or she has received the necessary instruction and training so as to be able to perform the work safely and competently;
 - (ii) that no person work alone in any remote part of a mine where, if any accident occurred, he or she would not soon be discovered or assisted;
 - (iii) that no inexperienced person shall be employed for any work except under the supervision and guidance of an experienced person;
 - (d) take any such measures as may be necessary so as to ensure-
 - (i) the compliance with or enforcement of the requirements of these Regulations at such mine;
 - (ii) the safety, health and welfare of persons employed or otherwise present in or at a mine, and the protection of other persons, property, the environment and natural resources from hazards arising from mining operations, at such mine;
 - (e) perform such other duties as may be imposed upon the owner of a mine in terms of the Minerals Act or any other law.
- (2) Without prejudice to the generality of subregulation (1), the mine manager shall-
 - (a) on assuming control, management and supervision of a mine, acquaint himself or herself with such notices or orders as may have been issued in terms of these Regulations or any other law in connection with such mine;
 - (b) ensure that competent persons are employed or otherwise present at places in or at the mine where the safety of persons, the preservation of property, the environment or natural resources are involved for purposes of securing such safety or preservation;
 - (c) ensure that any outlets, travellingways, ladders and ladderways in use in or at the mine are made available, operated, tested, examined and maintained in accordance with the provisions of these Regulations in order to ensure that such outlets, travellingways, ladders and ladderways are at all relevant times safe and without hazards to safety and health;
 - (d) ensure that protective equipment, clothing or devices are provided and used in accordance with the provisions of these Regulations;
 - (e) ensure that in the construction or creation of any place, including a dam, for purposes of the dumping or disposal tailings, no danger or any damage to property can result therefrom, and that any such place or dam so constructed or created is free from any danger, including from danger to the environment and any property;

- (f) investigate or cause to be investigated any representations or complaint made or lodged in connection with any matter relating to the safety, health or welfare of any person or persons employed or otherwise present in or at the mine;
 - (g) ensure, in the case of underground workings, that at the end of a shift any person on that shift is, unless otherwise authorized by or under the authority of the mine manager, brought to surface;
 - (h) furnish to the chief inspector such information, notices, returns or reports as may be prescribed in these Regulations or as may be required by the chief inspector in the interests of the safety, health and welfare of persons employed or otherwise present in or at a mine, and the protection of other persons, property, the environment and natural resources from hazards arising from the mining operations at such mine;
 - (i) ensure that all articles and substances obtained for use are safe and without hazard to the safety and health of persons employed or otherwise present in or at a mine and are used with due regard to the relevant information or advice from the manufacturer or supplier
 - (j) perform such other duties as may be imposed in terms of these Regulations upon a mine manager or, unless it is in any particular case obviously inappropriate, the owner of a mine or as may be imposed in terms of these Regulations in respect of a mine.
- (3)(a) The mine manager may-
- (i) assign any duty imposed upon him or her in terms of these Regulations or any other law to any person under his or her control to perform such duty subject to his or her control, supervision and directions, but shall not be divested of any such duty;
 - (ii) direct any person employed or otherwise present in or at the mine to perform any function in relation to a duty so imposed upon him or her.
- (b) The provisions of paragraph (a) shall not be construed as detracting from the mine managers responsibility of control, management and supervision of, and the direction of persons employed or otherwise present in or at, the mine under his or her control.

17 Posting of notices

(1) The mine manager shall cause to be posted on an appropriate notice board for information of any interested person-

- (a) such abstract of these Regulations as may be approved by the chief inspector;
- (b) instructions issued by the chief inspector on any matter of safety, health and welfare or such extracts from such instructions as may be approved by the chief inspector; and
- (c) such particulars of, or such abstract from, any scheme contemplated in regulation 16(2)(d) as may be approved by the chief inspector.

(2) The mine manager shall cause any abstract, instructions or particulars referred to in subregulation (1) to be promptly renewed as they become defaced, obliterated, destroyed or amended.

18 Entry upon mines by unauthorized persons

(1) No person other than an inspector or a person employed at a mine shall enter a mine unless he or she is authorized thereto by the mine manager concerned.

(2) The mine manager shall cause a notice indicating that no unauthorized person shall enter a mine to be posted at all entrances to the mine.

19 Representations of workplace safety committees and workplace safety representatives in relation to health, safety and welfare of persons at work in or at mines

(1) The mine manager shall, upon receipt of any representations from any workplace safety committee or workplace safety representative in relation to health, safety and welfare of persons at work in or at the mine, cause such representations to be entered forthwith in a register which

shall provide for such entries as may be necessary to show the nature and date of any action taken by the mine manager in consequence of such representations.

(2) If the mine manager and the workplace safety committee or workplace safety representative do not agree on any aspect of any representations referred to in subregulation (1), the mine manager shall, and the workplace safety committee or workplace safety representative concerned may, forthwith report the matter to the chief inspector.

(3) On receipt of a report from the mine manager, the chief inspector shall take such action to resolve the matter as he or she considers necessary or expedient.

(4) For purposes of the application of this regulation the reference in section 99 of the Labour Act, 1992 (Act 6 of 1992), to the regulations made under section 101 of that Act, shall be construed as including a reference to these Regulations.

20 Duties of persons employed or otherwise present in or at mines

(3) Any person employed or otherwise present in or at a mine shall -

- (a) comply with instructions given by the owner of that mine or the mine manager for his or her own safety and health and welfare and those of others whether or not such person is employed by such owner or mine manager;
- (b) use protective equipment, clothing or devices in accordance with these Regulations and any such instructions as may be given to him or her;
- (c) not work in any place other than his or her authorized workplace;
- (d) carefully examine his or her workplace before commencing work, and also at intervals during the performance of his or her functions at such workplace;
- (e) report any accident or injury which arises in the course of or in connection with work;
- (f) not wilfully or negligently damage or without proper authority use, remove or render useless or ineffective any machinery, building, fence, guard, structure, equipment or anything provided for the workings of the mine or for the safety, health or welfare of persons employed in or at a mine;
- (g) not remain in the mine beyond the period during which he or she is in terms of his or her conditions of employment require to remain in such mine, unless he or she is duly authorized to do so;
- (h) perform such other duties as may be imposed upon persons employed in or at a mine in terms of the Minerals Act or any other law.

(4) Any person employed at a mine who observes any danger, whether to life or limb or to the mine, shall-

- (a) take immediate steps to remove such danger;
- (b) if the removal of such danger is not possible, immediately warn persons in danger and notify the nearest superior responsible person.

(5) No person employed in or at a mine shall obstruct or impede any other person so employed who is engaged in the performance of his or her duties.

21 General duties of designers, manufacturers, importers or suppliers of articles and substances for use at work in mines

(1) Any person who designs, manufactures, imports or supplies any article for use at work in mines shall-

- (a) ensure, so far as is reasonably practicable, that the article is so designed and constructed as to be safe and without hazards to the health of the users and other persons in the vicinity, when properly used;
- (b) carry out or arrange for the carrying out of such tests and examination as may be considered necessary for the effective implementation of the provisions of paragraph (a);
- (c) take such steps as may be necessary to ensure that adequate information will be available to the customer at the time of supply or subsequently on request by the customer or others who may use it at work-
 - (i) in connection with the transport, storage and use of the article;

- (ii) about the use for which it is designed and tested; and
- (iii) about any conditions necessary to ensure that the article when put to such use, will be safe, and without hazards to the health of the users and other persons in the vicinity, and the mine manager shall ensure that any such article or substance complies with these requirements.

(2) Any person, who undertakes to design or manufacture any article for use at work in mines shall carry out or arrange for the carrying out of necessary research with a view to the discovery and, so far as is reasonably practicable, the elimination or minimisation of any hazards to the safety or health of the persons employed or otherwise present in or at a mine to which the design or article may give rise.

(3) Any person who erects or installs any article for use at work in mines shall ensure, so far as is reasonably practicable, that nothing about the way in which it is erected or installed makes it unsafe or a hazard to health when properly used.

(4) Any person who manufactures, imports or supplies any substance for use at work in mines shall-

- (a) ensure, so far as is reasonably practicable, that the substance is safe and without hazards to health when properly used;
- (b) carry out or arrange for the carrying out of such testing and examination as may be necessary for the effective implementation of the provisions of paragraph (a); and
- (c) take such steps as are necessary to ensure that there will be available to the customer, at the time of supply and subsequently on request to others who may use it at work, adequate information about the substance and the results of any relevant tests which have been carried out, on or in connection with the substance and about any conditions necessary to ensure that it will be safe and without hazards to health when properly used.

(5) Any person who undertakes the manufacture of any substance for use in any workplace shall carry out or arrange for the carrying out of any necessary research with a view to the discovery and, so far as is reasonably practicable, the elimination or minimization of any hazards to safety or health to which the substance may give rise.

(6) For the purposes of this section an article or substance is not to be regarded as properly used if it is used without regard to any relevant information or advice relating to its use which has been made available by the person who has designed, manufactured, imported or supplied the article or substance.

22 Powers of chief inspector to issue certain orders

The chief inspector may, if he or she has reason to believe that any owner of a mine or the mine manager of such mine-

- (a) has contravened or is contravening any provision of the Minerals Act, these Regulations or any guideline issued thereunder or has failed to comply with any such provision;
- (b) has contravened any such provision in circumstances where it is likely that such contravention will be continued or repeated, by notice in writing to the owner of the mine or the mine manager issue and order-
 - (i) stating the provision which is in his belief so contravened; and
 - (ii) setting out the facts and grounds on which such belief is based; and
 - (iii) requiring such owner or mine manager to remedy within such period as may be specified in such notice any matter so specified which has arisen in consequence of such contravention or to comply with any such provision within such period and such conditions, if any, as may be specified in such notice; or
 - (iv) ordering such owner or mine manager to refrain from carrying out or to carry out, any actions specified in such notice which are required to be carried out or not to be carried out by any such provision.

PART V

MINE PLANS AND SURVEYS AND PEG INDEX REGISTERS (regs 23-27)

23 Mine plans

(1) The mine manager shall ensure that the following plans are kept and maintained in respect of the mine, namely-

- (a) a mineral rights plan drawn to any convenient standard natural scale, showing-
 - (i) the mineral rights holdings in relation to any surrounding farm boundaries;
 - (ii) the survey stations used for the origin of the mine survey;
- (iii) the survey system and the co-ordinates of the mine survey origin used;
 - (iv) the bench mark, its co-ordinates and elevation and a full description thereof;
- (b) a surface plan, showing-
 - (i) any perimeter of opencast workings;
 - (ii) any shafts and accesses to underground workings;
 - (iii) any subsidence and cavities resulting from mining operations;
 - (iv) any buildings, sub-stations and explosives magazines;
 - (v) any roads, railways and haulage ways;
 - (vi) any. power transmission, telephone and main pipe lines;
 - (vii) any tailings dams, ore stockpiles and waste dumps;
 - (viii) any reservoirs, dams, water courses and boreholes;
 - (ix) the bench mark and main survey stations;
 - (x) any main surface contours;
 - (xi) any other main surface features.
- (c) a mine workings plan of each bench in opencast workings and of each level in underground workings, showing-
 - (i) the elevation to which each plan refers;
 - (ii) the outline and the names of any workings;
 - (iii) any main survey stations with their numbers and elevations;
 - (iv) any areas in which mining operations have been restricted;
 - (v) any major geological faults and dykes;
 - (vi) any explosives magazines;
 - (vii) any reservoirs, dams and other structures constructed to withstand a pressure of water or other material which will flow when wet or to control an inrush of water;
 - (viii) in the case of underground workings, permanent supports and the heights of workings or stoping widths sufficient in number to be representative of the workings.

(2) Where different veins, lodes, reefs, mineral beds or deposits overlie each other or are worked a second or successive time, the workings of each such vein, reef, lode, mineral bed or deposit shall be shown on a separate plan.

(3) Where an orebody is worked by opencast methods the bench plans referred to in subregulation (1)(c) may be replaced by a composite plan which may be incorporated into the surface plan and which shall then be called a general plan.

(4) Where an area held under mineral rights is large in relation to the area under mining operations, surface plans referred to in subregulation (1)(b) may be prepared only in respect of such areas where mining operations are or have been carried on.

24 General requirements of plans

- (1) Any plan referred to in regulation 23 shall-
 - (a) be drawn on good quality transparent draughting material in black ink;
 - (b) except as provided in regulation 23(1)(a), be drawn to a standard natural scale and be so prepared that they are to the same scale and can be superimposed one upon the other;
 - (c) show an accurately drawn scale, at least 100 millimetres long and suitably subdivided;
 - (d) show the direction of true north;
 - (e) show co-ordinate grid lines not more than 200 millimetres apart with numerical values at both ends of the lines;
 - (f) show a subject heading which shall consist of the name of the plan, the mine and the magisterial district in which the mine is situated;
 - (g) bear the identification number assigned to it by the chief inspector;
 - (h) observe such conventions as may be determined by the mine manager which shall be indicated in a legend;
 - (i) show the date of measurement of the position the working has reached;
 - (j) show on an inset key plan, drawn to any convenient scale, the area covered by the relevant sheet in relation to the other sheets comprising the plan.

(2) The chief inspector may require by notice in writing to the mine manager such additional details to be shown on the plans required to be kept under these Regulations or the preparation and maintenance of such other plans or sections as he or she may specify in such notice.

(3) Except as provided for in subregulation (6), any plans required to be kept under these Regulations shall be maintained up-to-date within three months.

(4) Where a mine or any part thereof is proposed to be abandoned or the working thereof discontinued or rendered inaccessible, the relevant plans shall be brought up-to-date before such abandonment or discontinuance, as the case may be.

(5) A true copy of any plan referred to in this regulation, drawn on good quality transparent draughting material, shall be deposited at the office of the chief inspector.

(6) The mine manager shall ensure that at intervals not exceeding 12 months the copies referred to in subregulation (5) are updated and redeposited at the office of the chief inspector.

(7) The copies referred to in subregulation (5) shall-

- (a) not be away for purposes of the updating so referred to from the custody of the chief inspector for more than 60 days in any such period of 12 months;
- (b) have a declaration made by the mine manager on every occasion it is updated to the effect that the plan conforms with the requirements of these Regulations, and is a true representation of the workings of the mine as on the date on which the declaration is made.

25 Mine surveys

(1) Any workings, objects and the relevant features required on any prescribed plan shall be shown to be plotted from actual survey observations.

(2) Any mine surveys shall be based on the national trigonometric system or the survey system of the farm or farms on which mining operations are carried on.

(3) A bench mark shall be established in the general vicinity of the mine to which the coordinate system shall be related for plan reference.

(4) Sufficient survey stations shall be established on the surface and in the workings so that the surface features and all the workings can be surveyed.

(5) Every survey station shall be marked with a number in such manner that it can be readily identified.

(6) The International Standard (SI) system shall, as far as is practicable, be the unit of measure on all mines.

(7) Any elevations shall refer to a common datum which shall be mean sea level.

(8) The limits of allowable error in survey work and the representation thereof on plan shall be as specified in any particular case in writing by the chief inspector to the mine manager concerned.

26 Peg index registers

The identification number of each survey station together with the locality, coordinates, elevation, the back reference survey station shall be entered in numerical order in the peg index register.

27 General requirements relating to mine plans and surveys

(1) A peg index register and the plans required to be maintained under these Regulations shall be kept available for inspection and maintained at every mine or at such other place as the chief inspector may permit.

(2) Where the chief inspector is of the opinion that any mine plan is not accurate or satisfactory, he or she may direct the mine manager by notice in writing to have a new plan prepared or a fresh survey made within such period as may be specified in such notice.

(3) Within 30 days after the cessation of mining operations, all prescribed plans and copies together with the peg index registers shall be handed in at the office of chief inspector.

PART VI

ACCIDENTS, DANGEROUS OCCURRENCES AND DISEASES (regs 28-35)

28 Notice of accidents or dangerous occurrences

- (1) When an accident occurs at a mine in the course of mining operations which results in-
- (a) the death of any person;
 - (b) the injury of any person -
 - (i) which is likely to be fatal;
 - (ii) in consequence of which such person loses a limb or part of a limb or suffers a permanent disability;
 - (iii) which incapacitates such person for a period expected not to be less than 14 days from performing his or her normal duties for which he or she was employed or is usually employed;
 - (c) the unconsciousness or incapacitation of any person from heatstroke, heat exhaustion, electric shock or inhalation of fumes or poisonous gas;
 - (d) the ignition or explosion of gas or dust;
 - (e) the accidental ignition or detonation of explosives;
 - (f) - the outbreak of any fire;
 - (g) the influx or presence of any noxious or flammable gas;
 - (h) the inrush of water;
 - (i) the likelihood of any dump, tailings dam or reservoir becoming insecure;
 - (j) the breakdown or failure of any main ventilation system;
 - (k) a rock-burst underground;
 - (l) the extensive caving or subsidence of ground;
 - (m) any unplanned ground movement or a premature collapse of any part of the workings;
 - (n) the running out of control of winding engine, winding drum, driving sheave, shaft conveyance or any other conveyance;
 - (o) the failure, fracture or distortion of, or damage to, any winding, balance or tail rope or to any attachments to a shaft conveyance, counterweight, detaching gear, guide, pulley or to a headframe, winding drum or driving sheave;
 - (p) the overwinding of any shaft conveyance;

- (q) the uncontrolled runaway of a trackless vehicle, locomotive or other similar machinery as may be specified by the chief inspector;
- (r) the bursting of a system containing steam, compressed air or other substance under pressure;
- (s) diving related sickness;
- (t) such other occurrence as may from time to time be determined by the chief inspector by notice in writing to the mine manager,

the mine manager shall forthwith inform the chief inspector by the quickest means available and confirm such accident without delay in such form as may be determined by the chief inspector.

(2) When an injury referred to in paragraph (b) of subregulation (1) results in the death of the injured person after notice has been given in terms of that subregulation or when any injury other than an injury referred to in that paragraph and in respect of which no notice was so given, develops into an injury referred to in that paragraph, the mine manager shall forthwith inform the chief inspector *mutatis mutandis* in accordance with that subregulation.

29 Disturbance of places of accidents

(1) Where an accident referred to in regulation 28(1) results in the death of, or injury to, any person so referred to, the place of accident shall not be disturbed or altered before the arrival or without the consent of the chief inspector, unless-

- (a) such disturbance or alteration is necessary to prevent any further accident or to rescue any person from danger; or
- (b) discontinuance of work at the place of accident would seriously impede the workings of the mine.

(2) The mine manager shall, before the place of an accident referred to in subregulation (1) is disturbed or altered or, if the place is disturbed or altered to prevent any further accident or to rescue persons from danger, immediately after the place has been so disturbed or altered, cause a sketch of such place, illustrating the accident together with a key to sketch showing all relevant details and photographs to be prepared.

30 Inquiries into accidents by mine managers

Where an accident referred to in regulation 28(1) has occurred, the mine manager concerned or a competent person authorized thereto by him or her shall-

- (a) inspect the place of accident;
- (b) inquire, with due regard to the sketch and photographs referred to in regulation 29(2), into the causes of, and circumstances surrounding, such accident and record the result of such inquiry in writing; and
- (c) submit forthwith a copy of the report of such inquiry, together with the said sketch and photographs to the chief inspector

31 Inquiries into accidents by chief inspector

(1) The chief inspector-

- (a) shall hold an inquiry into the causes of any accident referred to in paragraph (a), (b)(i) or (ii) or (c) of regulation 28(1);
- (b) may-
 - (i) hold an inquiry into any accident other than an accident referred to in paragraph (a) of this regulation;
 - (ii) may, if he or she has reason to believe that any person has contravened any provision of these Regulations or failed to comply therewith, hold an inquiry into such contravention or failure;
- (c) shall, if it is for any reason in the opinion of the Minister necessary or expedient, hold an inquiry into any such matter relating to the health, safety and welfare of persons employed or otherwise present in or at a mine as may be determined by the Minister.

(2)(a) If any workplace safety representative submits a reasonable request in writing to the chief inspector, setting out the reasons, for an inquiry to be held into any occurrence or condition at the mine in respect of which he or she has been elected affecting or likely to affect the safety or health of persons, the chief inspector-

- (i) shall cause such occurrence or condition to be investigated;
- (ii) may, if he or she deems it desirable, after consideration of the result of the investigation referred to in subparagraph (i), hold an inquiry into such occurrence or condition.

(b) If the chief inspector declines to inquire into any occurrence or condition as provided in paragraph (a)(ii), he or she shall make the result of the investigation referred to in paragraph (a) (i) available to the workplace safety representative referred to in paragraph (a).

(3) The chief inspector shall, if necessary with the assistance of an interpreter, take down or record by mechanical or electronic means the evidence given thereat.

(4) Upon the conclusion of an inquiry held in terms of subregulation (1) or (2)(a)(ii), the chief inspector-

- (a) shall prepare a report containing his or her findings and, if any, such recommendations as to the steps which in his or her opinion ought to be taken in relation to causes which gave rise to the accident in question, and, if according to such findings any offence, whether under these Regulations or otherwise, has been committed, submit such report to the Prosecutor-General together with such number of copies as may be required by the Prosecutor-General of the evidence recorded in such inquiry.
- (b) may issue such orders as he or she is empowered to issue under these Regulations or take such other steps as may be necessary in order to remedy any causes which gave rise to the accident in question or to prevent the occurrence in future of any accident of that nature.

(5) This regulation shall not derogate from any law in terms of which an inquest or other inquiry into the death of a person due to other than natural causes shall be held and regulated, and any inquiry contemplated in subregulation (1) shall be held in addition to such inquest or other inquiry.

32 Attendance and examination of witnesses at inquiries held by chief inspector

(1) The chief inspector in holding an inquiry in terms of regulation 31(1) or (2) into any matter or who is to preside or is presiding at such inquiry may, for the purposes of such inquiry-

- (a) direct or summon any person to appear before him or her at such time and place as may be determined by him or her;
- (b) order any person present at the place where such inquiry is being held-
 - (i) to give evidence thereat;
 - (ii) to produce any document or thing which he or she may deem necessary for the proper disposal of such inquiry;
 - (iii) to perform any other act in relation to this Act which he or she may direct.

(2)(a) If any person has reason to believe that he or she may be held liable for any matter which shall or may be inquired into in terms of regulation 31(1) or (2) he or she shall have the right, but is, subject to subregulation (1), not compelled, to be present at any such inquiry and to be assisted or represented by another person.

(b) If at any inquiry held in terms of regulation 31(1) or (2) evidence has been or is being given from which any person may reasonably infer that he or she may be charged with contravening any provision of these Regulations or failing to comply therewith or may be held responsible in any manner for the matter comprising the subject of such inquiry, he or she shall have the right, but is not compelled, to give evidence and, either personally or through a representative-

- (i) to be heard;
- (ii) to call any witness or to request the chief inspector to direct or summon any witness on his or her behalf, either to give evidence thereat or to produce any document or thing;
- (iii) to cross-examine anybody giving evidence at such inquiry;

(iv) to peruse any document which has been presented as evidence.

(3) Any person who satisfies the chief inspector that he or she has a material interest in any inquiry held in terms of may, either personally or through a representative, put such questions as the chief inspector may consider relevant to such inquiry, to a witness giving evidence thereat.

(4)(a) The chief inspector may, at any inquiry held in terms of regulation 31(1) or (2), administer an oath which is normally administered to a witness in a court of law, to any witness before he or she gives evidence or, if he or she objects to taking such oath, he or she may make an affirmation, and such affirmation shall have the same legal force and effect as if he or she has taken such oath.

(b) No person called as a witness at any inquiry held in terms of regulation 31(1) or (2) shall, when he or she is requested thereto, refuse or fail to take an oath or, if he or she objects thereto, to make an affirmation.

(c) No person to whom an oath referred to in paragraph (a) has been administered or who has made an affirmation so referred to, shall give false evidence knowing it to be false or make a statement under oath or affirmation which is contrary to any statement which he or she made under oath or affirmation on a previous occasion.

(5) Any witness at any inquiry held in terms of regulation 31(1) or (2) shall have the same privileges in relation to the answering of questions or the production of documents or things as he or she would have had under the same circumstances if he or she had been summoned as a witness before a court of law.

(6)(a) Any inquiry or any part thereof held in terms of regulation 31(1) or (2) shall, in so far as it is in the opinion of the chief inspector practically possible or desirable, be held in public.

(b) The chief inspector may decide whether any witness who has to give evidence or has given evidence at any inquiry referred to in paragraph (a), shall be present whilst other witnesses are giving their evidence thereat.

33 Obstruction of inquiry or investigating officer or failure to render assistance

No person shall, in relation to any inquiry held in terms of regulation 31(1) or (2)-

- (a) without reasonable justification fail to comply with any direction, summons or order issued or given under regulation 32(1) or by virtue of a request under regulation 32(2)(b)(ii);
- (b) refuse or fail to answer to the best of his knowledge any question lawfully put to him or her by or with the concurrence of the chief inspector Provided that no person shall be obliged to answer any question whereby he may incriminate himself or herself;
- (c) in any manner whatsoever advise, encourage, incite, order or persuade any person who has been directed, summoned or ordered under regulation 32(1) or by virtue of a request under regulation 32(2)(b)(ii), not to comply with such direction, summons or order or in any manner prevent him or her from doing so;
- (d) refuse or fail, when required thereto by the chief inspector, to furnish him or her with the means or to render him or her the necessary assistance for holding such inquiry;
- (e) refuse or fail, when required thereto by the chief inspector, to attend an inquiry; or
- (f) intentionally insult the chief inspector or intentionally interrupt the proceedings thereat.

34 Records of accidents

The mine manager shall cause-

- (a) a register to be kept and maintained of any accident resulting in an injury other than an injury referred to in paragraph (b) of regulation 28(1);
- (b) an extract from such register to be submitted to the chief inspector at the end of each quarter.

35 Notices of diseases

When any person employed in or at a mine contracts any disease determined by the Minister by notice in the *Gazette*, the mine manager shall inform the chief inspector within seven days of being notified that such person has contracted such disease in such form as may be determined by the chief inspector of particulars of such person so employed and of the disease so contracted.

PART VII

OUTLETS, TRAVELLING WAYS AND LADDERWAYS (regs 36-40)

36 Outlets for purposes of travelling to and from surface

(1)(a) The mine manager shall cause, for purposes of affording any person employed underground at the mine to travel to and from the surface, at least two separate and independent outlets to be made available to any such person.

(b) The provisions of paragraph (a) shall not apply in respect of a shaft in the course of being sunk.

(2) Any outlet referred to in subregulation (1) shall be-

(a) provided with proper facilities which shall be available for use at all times so as to enable any person to travel to and from the surface at any time;

(b) maintained in a safe condition and be of sufficient cross-sectional area throughout to allow for free passage of persons; and

(c) connected to each other by practical and accessible route.

(3) Where a winder is installed at each outlet, any such winder shall operate independent of the other winder or any of the other winders and any precaution shall be taken to ensure that any of such winders do not fail simultaneously.

37 Underground connections to outlets

(1) The mine manager shall, as far as is practicable, cause at least two separate and independent means of ingress and egress to be provided at any workplace where persons are employed underground in such a manner that any such persons shall have available to him or her at least two ways of egress from his or her workplace of which at least one shall be to each outlet.

(2) The means of ingress and egress referred to in subregulation (1) shall be-

(a) provided with proper facilities, which shall be available for egress;

(b) maintained in a safe condition and be of sufficient cross-sectional area throughout to allow for free passage of persons.

(3) No person shall enter or leave any underground workings, except by means of ingress and egress specially provided or set apart for such purpose, unless such person is authorized by the mine manager to enter or leave such workings by other means.

38 Ladders and ladderways

The mine manager shall cause any ladder used in any ladderway in a mine-

(a) to be securely fastened in position;

(b) to be of good construction, free from any defects and of adequate strength for the purpose for which it is used;

(c) to be maintained in good repair;

(d) not to be fixed in an overhanging position;

(e) if in the opinion of the mine manager there exists a danger that a person may fall from any height, to be securely fenced or otherwise adequately protected to prevent accidents to persons;

(f) to have a level and firm footing;

(g) to project at least one metre above the mouth of an excavation and each landing place in which it is installed, except when a strong hand rail is fixed at such mouth or landing place;

(h) not to exceed 10 metres in length without a break and provided a suitable platform at each break.

39 Loose objects carried in ladderways

No person shall carry any loose tool or other object in any ladderway which may interfere with his or her safe passage, except in so far as it may be necessary for carrying out repairs to such ladderway.

40 Scheme for the examination and maintenance of outlets

The manager shall formulate a scheme for the systematic examination and maintenance of outlets in a safe condition, including travellingways and ladderways in use.

**PART VIII
MINE WORKING (regs 41-66)**

41 Opencast workings

- (1) In opencast workings the mine manager shall ensure-
- (a) that the overall pit slope formed by mining operations does not exceed an angle which could cause a failure of the wall or benches by sliding or collapsing;
 - (b) that, where benching is necessary, the height and width of benches shall be suitable for the type of equipment used;
 - (c) that any object on the surface shall be cleared to a distance of at least three metres from the edge of such opencast workings or such other distance therefrom as may be determined by the chief inspector and specified generally or in any particular case by notice;
 - (d) that the ground conditions of the workings which create a hazard to persons be taken down, trimmed, scaled or supported before other work or travel is permitted in the area in which such hazard is created;
 - (e) that, until loose objects or the hazard referred to in paragraph (c) or (d) are cleared, a notice warning against entry be posted at appropriate places at or near the place where such debris, loose material, stones or other objects or hazard are being cleared.
 - (f) That waste tailings and shines dumps clearance shall be determined by the manager, with the approval of the chief inspector.
- (2) No person shall-
- (a) without the permission in writing of the chief inspector and on such conditions, if any, as may be determined by him or her, undercut any face so as to create any overhanging;
 - (b) work or travel between machinery or equipment and the face where machinery or equipment may hinder escape from falls or slides of ground;
 - (c) enter or be deployed in the determined hazard zone of any machinery or equipment unless either the machinery or equipment is effectively immobilised or the person is permitted to do so by the operator of the machinery or equipment.
- (3) No blasting shall be performed in opencast workings which have approached within 100 metres, measured in any direction, of any underground workings other than abandoned or discontinued workings without the permission in writing of the chief inspector and subject to such conditions as may be determined by him or her.

42 Underground workings

- In underground workings the mine manager shall ensure-
- (a) that the dimensions of pillars created or left in any ore body shall be such as to ensure stability of workings during mining operations;
 - (b) that the dimensions of headings provide adequate clearance for any equipment used;
 - (c) that no extraction or reduction of pillars or blocks of minerals shall be commenced or carried on except with the permission in writing of the chief inspector and subject to such conditions as may be determined by him or her
 - (d) that adequate steps be taken to isolate, control or remedy any premature or unplanned collapse of workings;

- (e) that any workings which are in use shall be kept safe and that no person, except for the purpose of examining, repairing or making safe, travels or works in any part of such workings until it is made safe.

43 Scheme for support of roofs, hanging walls, footwalls and sides of roadways, travelling ways and workplaces

- (1) The mine manager shall formulate a scheme providing for-
- (a) the systematic support of the roof, hanging wall, footwall and sides of any roadway, travellingway or workplace where circumstances so require;
 - (b) the type of supports to be used and the system according to which the supports shall be placed.

(2) No person shall remove or alter any support unless duly authorized in writing by the mine manager to do so.

(3) When voids are to be filled with incombustible material during stoping operations, such fillings shall be completed without undue delay.

(4) No blasting shall be performed in underground workings which have approached within 100 metres, measured in any direction, of any opencast workings other than abandoned or discontinued workings without the permission in writing of the chief inspector and subject to such conditions as may be determined by him or her.

44 Scheme to regulate excavation and loading operations

The mine manager shall formulate a scheme to regulate excavation and loading operations detailing the procedure to be followed and precautions to be taken during such operations.

45 Workings beneath and in vicinity of railways, roads or buildings or other structures

(1) No workings shall be made or extended to any point beneath or within 100 metres, measured in any direction, of any railway, public road, building or other permanent structure not belonging to a mine, except with the permission in writing of the chief inspector and subject to such conditions as may be determined by him or her.

(2) When the stability of any railway, public road, building or other permanent structure not belonging to the mine has been endangered due to any mining operation, the chief inspector may require the mine manager by notice in writing to construct such protective works within such period as may be determined by him or her and specified in such notice.

46 Stability of excavations

The mine manager shall ensure-

- (a) that the sides of any excavation shall be made and kept secure so as to prevent danger from falls of sides;
- (b) that any excavation which is excavated manually, shall not exceed 1,5 metre in depth or, if the depth of such excavation exceeds 1,5 metre, that its width shall not be less than its depth without the sides being adequately braced.

47 Workings near mine boundaries

No workings shall be made within a horizontal distance of 10 metres from the boundary of a mine, except with the permission in writing of the chief inspector and on such conditions as may be determined by him or her.

48 Waiting places

The mine manager shall provide sufficient and conveniently located waiting places at the mine for the use of persons employed in or at such mine prior to them entering their workplaces and shall cause such waiting places to be adequately disinfected and kept in a clean and safe condition.

49 Fencing and gates

- (1) The mine manager shall ensure-
- (a) that the top of any opencast working and any entrance to any excavation is provided with an efficient fence, barrier or gate so designed and constructed as to effectively prevent any person from entering or falling therein;

- (b) that, where a subsidence of the surface has taken place or is likely to take place as a result of mining operations, the entire relevant surface area is provided with a secure and effective fence or barrier and with notice boards sufficiently and adequately warning persons of the danger of entering that area;
- (c) that any entrance to a mine or part of a mine which is not worked or used for any purpose is provided with a fence, barrier or gate so designed and constructed as to prevent any person from inadvertently entering such mine or part;
- (d) that, where any excavation leads directly in a workplace or travellingway from above, such workplace or travellingway is securely guarded or otherwise protected so as to prevent danger to persons from falling objects;
- (e) that, before a mine is abandoned or the working thereof is discontinued-
 - (i) the entrance to any shaft, incline or other opening into such mine is fenced or blocked off by a structure of permanent character sufficient to effectively prevent persons falling into or entering the mine;
 - (ii) any opencast working or other excavation, is securely fenced off or, if the chief inspector is of the opinion that such opencast working or excavation constitutes a danger to any person or livestock, is filled in to the level of the adjacent ground, unless the chief inspector in his or her discretion directs otherwise;
- (f) that water containing poisonous or injurious matter in suspension or solution is effectively fenced off or barricaded so as to prevent any person or livestock from inadvertently having access to such water and is provided with notice boards at suitable places to warn persons from using such water.

(2) No person other than the mine manager or any person duly authorized by him or her may cross or open any fence, barrier or gate provided for protection of any workings.

50 Guards and handrails

The mine manager shall ensure-

- (a) that handrails, guards or fences of substantial construction are provided and maintained in good order and safe condition on any elevation around the sheaves of headframes and platforms around vats, bins or similar vessels containing liquids, poisonous or dangerous solutions and solution vats containing propellers, revolving vanes or any other submerged moving machinery;
- (b) that any ladder on a chimney stack or a ladder in any other elevated position where there exists a danger that a person may fall from any height, is securely fenced with safety mesh or similar guard and provided within the confines of mesh or guard with platforms for rest purposes at distances of not greater than 10 metres or otherwise adequately protected to prevent accidents to persons.

51 Use of lifeline or life jacket

The mine manager shall take such steps as may be necessary to ensure that no person enters a significant accumulation of water or mud in the workings of a mine, unless he or she is secured by a lifeline or wears a life jacket.

52 Steeply inclined workings

The mine manager shall ensure-

- (a) that adequate precautions are taken at any steeply inclined workings to prevent danger to persons from falling objects;
- (b) that no person works or is permitted to work at any steeply inclined workings or other place where he or she is likely to slip or fall, unless he or she is secured by a safety belt or lifeline or is otherwise safeguarded;
- (c) that any loose objects are placed or allowed to remain near the edge of any vertical or steeply inclined excavation or opening where they can fall or roll down and thereby endanger the safety of persons.

53 Surge stockpiles

The mine manager shall ensure-

- (a) that no person works or climbs on top of any active surge stockpile of broken rock or other unconsolidated material to which such rock or material is fed from above and from which it is withdrawn from below, unless-
 - (i) he or she has been duly authorized to do so;
 - (ii) the feed to and from the stockpile has been stopped and locked out;
 - (iii) it has been established that the chute below is not hung up;
 - (iv) he or she is wearing a safety belt with a rope attached thereto and to a secure anchorage above; and
 - (v) he or she is assisted by another person stationed at a safe vantage point above him or her;
- (b) that any tunnel under any such surge stockpile is provided with sufficient exits, unless there is only one feed chute from such stockpile which is located at the end of the tunnel.

54 Chute loading installations and rock passes

The mine manager shall ensure-

- (a) that chute loading installations are designed and installed in such a manner that persons operating such loadings are not required to be in a hazardous position while at work;
- (b) that any action to free a blockage in a chute loading installation or a rock pass in underground workings is performed by a person who fully understands the hazards involved in any such action.

55 Restricted overhead clearance

The mine manager shall ensure that any overhead clearance which is restricted is conspicuously marked.

56 Protection on surface from flooding

The mine manager shall ensure-

- (a) that, where necessary, any storm water drain and embankment are established and maintained in good order on surface for the protection from flooding of mine workings where persons are employed;
- (b) that the collar of any shaft or other access from surface, situated in lowlying ground, which connects with underground workings where persons are employed, is raised so as to afford effective protection from flooding.

57 Scheme for working under or in vicinity of a body of water

(1) Where mine workings are proposed to be carried out under or in the vicinity of the sea or any lake, river or other body of water, the mine manager shall formulate a scheme of work setting forth the procedure to be followed and precautions to be taken to prevent an inrush of water or other liquid matter into the workings.

(2) At any working approaching a place containing or likely to contain an accumulation of water or other liquid matter, the mine manager shall ensure-

- (a) that an adequate number of bore holes, drilled sufficiently close to each other, are kept in advance of the working and at such angle from the working as may be necessary to ensure safety;
- (b) that suitable precautions are taken whilst holes are drilled for probing or releasing a body of water or other liquid matter.

58 Abnormal seepage of water

(1) The mine manager shall, as soon as any seepage of water which is not normal to the mine occurs at any place in any workings, cause such workings to be stopped immediately and shall forthwith inform the chief inspector of such occurrence and, if he or she has so informed the chief inspector orally, as soon as practicable thereafter confirm in writing that he or she has so informed the chief inspector.

(2) The mine manager shall not cause any workings referred to in subregulation (1) to be continued, except with the written permission of the chief inspector and subject to such conditions as he or she may specify.

59 Construction of reservoirs, dams or other structures

(1) Where in any mine it is proposed to construct a reservoir, dam or other structure to withstand a pressure of water or other liquid matter, or to control an inrush of water, the mine manager shall give the chief inspector notice in writing of such proposed construction not less than 30 days before the commencement of such construction.

(2) The chief inspector may require such modification or alteration to be made in the design of a reservoir, dam or structure referred to in subregulation (1) as he or she may specify.

60 Drains

The mine manager shall ensure that drains are constructed, positioned and maintained so as to prevent water inadvertently entering a rock pass or forming dangerous accumulations in the workings.

61 Intentional flooding

(1) When the mine manager proposes to flood any part of the workings of a mine, he or she shall give the chief inspector notice of such proposed flooding not less than 30 days before the commencement of such flooding.

(2) The chief inspector may by notice in writing to the mine manager prohibit any flooding referred to in subregulation (1) or require such flooding not to commence until such precautions as he or she may specify in such notice have been taken.

62 Dumps and tailings dams

The mine manager shall, before any mine discard or refuse of any kind is dumped at any proposed site, ensure that such site is suitable and safe in all respects.

63 Scheme for regulation of dumping operations

- (1) The mine manager shall formulate a scheme to regulate dumping operations.
- (2) Any such scheme shall include provisions regarding-
 - (a) the manner in which dumping operations are to be carried out;
 - (b) the maintenance and inspection schedules of each dump and dam;
 - (c) the nature of inspections, including the examination of movement monitoring systems, where necessary, and the reporting thereon;
 - (d) the provision of a suitable system for drainage; and
 - (e) the maintenance in proper order of the drainage system.

(3) The mine manager shall ensure that any dump or tailings dam is designed and operated in such a manner so as to ensure the necessary on-site safety.

64 Shaft sinking

The mine manager shall, at least 30 days before sinking any shaft or extending any existing shaft, notify the chief inspector in writing of his or her proposal to so sink or extend such shaft.

65 Scheme for sinking operations

(1) The mine manager shall formulate a scheme detailing the procedure to be followed and precautions to be taken during sinking operations.

- (2) The scheme shall include provisions regarding-
 - (a) the conveyance of persons, material or rock;
 - (b) the systematic examination and testing of winding and sinking equipment;
 - (c) the nature of examination and testing to be carried out;
 - (d) the drilling and blasting operations;
 - (e) the systematic inspection and securing of shaft sides;
 - (f) the ventilation of workings;

- (g) the protection provided to persons working in the shaft against falling objects;
- (h) the withdrawal of persons from the shaft bottom or any other place in the shaft, in the event of an emergency; and
- (i) the recording of the results of examinations and tests.

66 General provisions

The mine manager shall ensure that-

- (a) no person shall work unless he has received the necessary instructions and training so as to be able to perform the work safely and competently;
- (b) no person shall work in any remote part of a mine where, if any accident occurred, he would not soon be discovered or assisted;
- (c) no inexperienced person shall be employed for any work except under the supervision and guidance of an experienced person.

PART IX VENTILATION, GASES AND DUST (regs 67-81)

67 Ventilation

(1) The mine manager shall ensure that all accessible parts of the mine are ventilated in a manner adequate -

- (a) to clear away smoke, steam and dust;
- (b) to dilute gases that are flammable or noxious so as to render them harmless;
- (c) to keep such accessible parts in a fit state for persons to work in or pass through.

(2) An accessible part of a mine shall not be deemed to be adequately ventilated and fit for persons to work in or pass through, if -

- (a) the air contains-
 - (i) less than 19 percent by volume of oxygen;
 - (ii) more than 5000 parts per million by volume of carbon dioxide;
 - (iii) more than 100 parts per million by volume of carbon monoxide;
 - (iv) more than 5 parts per million by volume of oxides of nitrogen;
 - (v) more than 20 parts per million by volume of hydrogen sulphide;
 - (vi) more than 2 parts per million by volume of sulphur dioxide;
 - (vii) more than 25 parts per million by volume of ammonia;
 - (viii) more than 5 parts per million by volume of aldehydes (as formaldehyde),

or such other percentages or parts as may from time to time be determined by the chief inspector and made known by notice in writing to the mine manager.

- (b) the concentration of airborne dust exceeds such standards as may from time to time be determined by the chief inspector and made known by notice in writing to the mine manager.

68 Heat and humidity

(1) The mine manager shall cause such steps to be taken as are necessary, in the case of underground workings, to prevent excessive rise of temperature or humidity which may be harmful to the health of persons at work and, in the case of opencast workings, to protect such persons from extremes of temperature and weather conditions.

(2) In treatment or processing plants, having regard to the operation or process carried on thereat, a reasonable temperature and movement of air shall be maintained and persons at work protected from direct exposure to sources of heat.

69 Quantity and velocity of air in underground workings

(1) The mine manager shall ensure that the ventilating current from a main intake airway shall be suitably spilt to provide each ventilating district at all times with a quantity of fresh air of not less than two cubic metres per minute person employed in the ventilating district.

(2) The quantity of air-

(a) supplied at the working face of any development end such as a drive, crosscut, raise or winze which is being advanced and at the bottom of any shaft in the course of being sunk shall not be less than 9 cubic metres per minute for each square metre of average cross-sectional area of excavation;

(b) required to dilute the exhaust gases from diesel engines shall not be less than 3,8 cubic metres per minute per kilowatt engine output based on the maximum rating of the engine.

(3) The velocity of air along the working face of a stope shall on average not be less than 15 metres per minute.

70 Main ventilating fans

Unless, in all parts of a mine required to be constantly ventilated, there is provided, by natural means, ventilation to the standards required by these Regulations, the mine manager shall cause such mine to be provided with one or more main ventilating fans, and shall maintain such fan or fans.

71 Scheme for control and operation of ventilating fans

In a mine where a main mechanical ventilator is installed, the mine manager shall formulate a scheme for the control and operation of such fan.

72 Auxiliary fans in underground workings

(1) The mine manager shall, before an auxiliary fan is installed in underground workings, be satisfied that a sufficient quantity of air is reaching the fan to prevent recirculation of air.

(2) The mine manager shall specify the minimum quantity of air to be delivered at or exhausted from any working face.

(3) Any auxiliary fan shall be suitably earthed.

(4) No person other than a person duly authorized shall stop, start or otherwise control the operation of auxiliary fans.

(5) The switchgear necessary to operate a fan shall be positioned in fresh air so that the switch can be operated from a position of safety.

(6) Where a place is provided with an auxiliary fan, no person shall remain in that place when the fan is stopped, unless duly authorised to do so.

73 Unventilated areas to be barricaded

The mine manager shall cause any part of the workings which is not ventilated up to the standards prescribed to be barricaded so as to prevent persons from entering such part.

74 Entry to pits, tanks, manholes, vessels or chambers

Before any person enters any pit, tank, manhole, vessel, chamber or other place specified by the chief inspector by notice in writing to the mine manager likely to contain noxious or flammable fumes or gases, an atmosphere deficient in oxygen or radiating excessive heat, such pit, tank, manhole, vessel, chamber or place shall be examined by a person duly trained to conduct such an examination, and no person shall enter or remain in any such pit, tank, manhole, vessel, chamber or place, unless it is safe to do so.

75 Provision of flues

The mine manager shall cause any fire or furnace in a room or building to be provided with an efficient flue discharging to the outside atmosphere.

76 Prevention of air pollution

The mine manager shall ensure that no dust, fumes or smoke from any dust or fume extraction system or from any other operation at the mine is discharged into the atmosphere unless adequate provision has been made to ensure that such discharge is harmless to the health of persons.

77 Detection of flammable gas in underground workings

When the presence of flammable gas is detected in underground workings or any part of such workings, the mine manager shall immediately -

- (a) suspend all work in such workings or part;
- (b) withdraw all persons from the ventilating district in which such gas is detected and erect barricades so as to prevent persons from entering such ventilating district;
- (c) notify the chief inspector of the presence of such gas; and
- (d) take such precautions as the chief inspector may determine to deal with the presence of such gas.

78 Scheme for control of airborne dust

The mine manager shall formulate a scheme for the control of airborne dust at the mine and in its vicinity.

79 Dust control

The mine manager shall make suitable arrangements so as to control airborne dust at all workplaces, loading and dumping points, transfer points, crushing stations and haulage roadways where hazards to persons may be created as a result of impaired visibility.

80 Air monitoring

The mine manager shall cause at any underground workings-

- (a) measurements to be made during the main working shift at intervals of not exceeding three months or such shorter period as may be necessary of the quantity of air circulating in any ventilating district, the environmental conditions and the amount of respirable dust in the air at places fixed by the mine manager in the main airways and at the workplaces;
- (b) a record of the measurements taken and samples analyzed shall be kept.

81 Ventilation plan

(1) In every mine having underground workings, the mine manager shall cause a plan, and where necessary, sections be drawn in accordance with such conventions as may be determined by the mine manager which shall be indicated in a legend and to any convenient standard natural scale, showing the system of ventilation in the mine, and in particular-

- (a) the direction and distribution of the air currents;
- (b) every location where air measurements are taken; and
- (c) every device for the regulation and distribution of air.

(2) The ventilation plan and sections referred to in subregulation (1) shall be maintained up-to-date within three months.

PART X EXPLOSIVES AND BLASTING (regs 82-94)

82 Transport, use, storage and distribution of explosives in, or at mines

Notwithstanding anything to the contrary contained in any other law, the transport, use, storage and distribution of explosives in or at mines shall be governed by these Regulations.

83 Explosives to be used in or at mines

No explosives shall be used in or at a mine unless such explosives-

- (a) have been made available by the mine manager;
- (b) are included in a list of authorized explosives published in the *Gazette* in terms of the Explosives Act, 1956 (Act 26 of 1956);
- (c) are of good quality and in good condition.

84 Storage of explosives

(1) The mine manager shall cause explosives to be stored in an explosives magazine approved by the chief inspector.

(2) An explosives magazine referred to in subregulation (1) shall be under the charge of a person authorized by the mine manager for such purpose who shall be responsible for the safe

storage and issue of explosives.

(3) The person referred to in subregulation (2) shall keep a record of the quantities of explosives on hand and the quantities, dates and times when any explosives were received or issued and the names of the persons to whom they were issued.

(4) Explosives shall be issued-

- (a) only to persons duly authorized to receive explosives;
- (b) in the same chronological order in which they were received in the explosives magazine.

(5) No article likely to cause a fire or explosion other than explosives shall be allowed or taken into an explosives magazine.

(6) An explosives magazine shall be-

- (a) kept clean, dry and adequately ventilated and the roof and walls maintained in good and safe condition;
- (b) be kept locked and the key shall be retained in the possession of the person in charge of such magazine.

(7) The area surrounding an explosives magazine shall be kept free of any flammable material.

(8) No unauthorized person shall be allowed to enter an explosives magazine.

85 Scheme for conveyance and use of explosives

(1) The mine manager shall formulate a scheme for the conveyance of explosives at the mine.

(2) The scheme referred to in subregulation (1) shall include provisions regarding-

- (a) the quantity of explosives to be issued to any one person;
- (b) the type and size of boxes used to carry explosives;
- (c) the maximum quantity of explosives which may be transported at any one time;
- (d) the conveyance of explosives in any shaft conveyance;
- (e) the supervision during the conveyance of explosives;
- (f) the precautions to be taken to prevent fire or accidental explosion;
- (g) the security and locking of boxes containing explosives;
- (h) the procedure to be followed and the precautions to be taken during charging and blasting, including blasting carried out under extreme temperatures, and for dealing with misfires.

(3) Any vehicle used for the conveyance of explosives shall-

- (a) have a substantially constructed body, no metal capable of creating a spark exposed in the cargo space and shall be equipped with suitable side or tail gates;
- (b) be equipped with suitable fire extinguishers, wheel chocks and when powered by an internal combustion engine, a battery isolating switch;
- (c) when conveying explosives, be posted with proper warning signs;
- (d) when parked whilst carrying explosives, have its parking brakes set, the motive power switched off and the vehicle blocked securely against rolling and not be left unattended;
- (e) when required to be taken to a garage or repair shop for any purpose, be emptied and cleaned out; and
- (f) no trailer shall be used in the transportation of explosives.

(4) Any detonators shall be conveyed separately from other explosives.

(5) No other objects shall be placed in or on the cargo space of a conveyance carrying explosives.

(6) Only duly authorized persons shall be allowed to travel in vehicles carrying explosives.

(7) Any explosives shall be conveyed without undue delay, and over routes and at times that expose a minimum number of persons to danger.

86 Keeping of explosives near workings

(1) Explosives shall only be left or kept at a place designated by the mine manager.

(2) The amount of explosives to be kept at any one place underground shall be fixed by the mine manager, but the total quantity of explosives in such boxes shall not exceed 24 hours estimated consumption at that place.

(3) Any place near workings where explosives are kept shall be maintained in a clean and safe condition and be out of bounds to unauthorised persons.

87 Blasters

(1) The preparation of charges shall be carried out by or under the personal supervision of a blaster.

(2) No person shall be authorized to carry out blasting operations without a valid blasting certificate.

88 Blasting tools

(1) A blaster shall not use any tool or appliance other than a tool provided by the mine manager.

89 Marking, drilling, charging, tamping and blasting

(1) No hole shall be marked for drilling, except by the blaster.

(2) A blaster shall, before a hole is marked for drilling-

(a) remove or cause to be removed all loose rock, material or ground at and around the position of the hole to be drilled;

(b) in the case of underground workings, also wash over with water the surface at and around the position of the hole to be drilled;

(c) make a thorough examination for sockets and misfired holes at and around the position of hole to be drilled;

(d) where the hole to be drilled is likely to encounter any sockets or misfired holes at any other face or workings in the vicinity, make an examination for sockets and misfired holes at such face or workings.

(3) The blaster shall mark a hole only after the examination under subregulation (2)(c) and (d) has revealed the absence of sockets and misfired holes or when discovered sockets or misfired holes have been safely dealt with.

(4) A hole shall not be drilled in any face or bench so that any portion of the hole comes within such distance of a hole containing explosives as may be fixed by the mine manager.

(5) The charging and tamping shall be done by the blaster.

(6) No shot hole shall be charged unless it is thoroughly cleaned and the blaster is satisfied that the shot hole is properly drilled.

(7) Any explosive cartridges shall be used only in the form in which they are supplied by the manufacturer or supplier: Provided that special cartridges which are designed to be cut may be so cut under such conditions as shall be recommended by the manufacturer or supplier of the explosives.

(8) No explosive cartridges shall be forced into a shot hole.

(9) The blaster shall, before commencing charging operations, ensure that all unauthorized persons have been withdrawn to a place of safety.

(10) No explosive cartridges shall be fitted with detonators or detonating fuses until immediately before use, except where otherwise authorized by the mine manager, and a detonator once inserted into a cartridge shall not be taken out.

(11) Any shot hole shall be tamped with sufficient and suitable non-flammable material.

(12) No pneumatic charging of ammonium nitrate blasting agent shall be used, unless adequate steps have been taken to eliminate the hazard of static electricity, including the grounding and bonding of the conductive parts of the pneumatic loading equipment.

(13) Any loader and its associated equipment, when earthed, shall give a total resistance to earth of not more than one kilo ohm.

(14) No water lines, compressed air lines, wire-covered hoses, rail or permanent electrical earthing systems shall be used as a means of earthing the loader.

(15) The mine manager shall fix the time for conducting blasting operations in any part or section of the mine, and the blaster shall ensure that blasting operations are conducted only during the times fixed by the mine manager.

(16) In a mine having underground workings all persons in that section shall, before blasting in any section of the mine, be withdrawn to the ventilation intake side of the place or places where blasting is to be done or to such other place where resultant smoke, dust and noise will not affect them.

(17) When two workplaces underground have approached within close proximity of each other, the blaster shall not fire any shot in any such workplaces, unless all persons have been withdrawn from the other workplace and the same has been barricaded.

(18) Where blasting operations in an opencast mine or other surface mining activity could constitute a danger to any person or property, the mine manager shall cause adequate precautions to be taken as may be necessary to prevent injury to persons or damage to property.

(19) Where blasting is done with safety fuse or in conjunction with delay starters, the length of safety fuse shall be such that the blaster has sufficient time to reach a place of safety without undue haste, after lighting the fuse.

(20) Firing of charges shall be done by blaster. In the case of centralized blasting system, the blaster so approved by the manager shall fire the shorts.

90 Electric blasting

- (1) Where shots are fired electrically the following provisions shall apply, namely-
 - (a) no shot shall be fired except by means of an approved blasting apparatus and the number of shots fired at any one time by the apparatus shall not exceed the number for which it is designed for;
 - (b) any electrical blasting apparatus shall be so designed that it can only be operated by a removable key or handle which key or handle shall not be placed in position until a shot is about to be fired and shall be removed as soon as a shot has been fired;
 - (c) no defective apparatus shall be used.
- (2) The blaster shall-
 - (a) retain the key or handle of the blasting apparatus in his or her possession throughout his or her shift;
 - (b) use properly insulated and, waterproofed blasting cable which is in good condition and of sufficient length;
 - (c) ensure that the blasting cable is kept disconnected and short circuited at each end during the period holes are being charged;
 - (d) before connecting the cable to the blasting apparatus, personally connect the cable to the detonator leads;
 - (e) take care to prevent the cable from coming into contact with any power or lighting cable or other electrical apparatus or conductive materials;
 - (f) personally connect the cable to the blasting apparatus;
 - (g) after blasting disconnect the cable from the blasting apparatus and short circuit the cable at both ends.
- (3) Where more than one shot are to be fired at the same time-
 - (a) electric detonators of different makes shall not be used in the same round;
 - (b) except when being tested with an instrument-
 - (i) electric detonators shall be kept shunted until they are being connected to the blasting line or wired into a blasting round;

- (ii) wired rounds shall be kept shunted until they are being connected to the blasting line;
 - (iii) blasting lines shall be kept shunted until immediately before blasting;
 - (c) the circuit shall be tested either for electrical resistance or for continuity before connecting it to the blasting apparatus;
 - (d) any tests shall be made with an apparatus specially designed for the purpose and after all persons in the vicinity, including the blaster and his or her assistants, have taken adequate shelter.
- (4) Where blasting is carried out by means of electric power circuit-
- (b) any electrical blasting apparatus shall be so designed that it can only be operated by a removable key or handle which key or handle shall not be placed in position until a shot is about to be fired and shall be removed as soon as a shot has been fired;
 - (c) no defective apparatus shall be used.
- (2) The blaster shall-
- (a) retain the key or handle of the blasting apparatus in his or her possession throughout his or her shift;
 - (b) use properly insulated and, waterproofed blasting cable which is in good condition and of sufficient length;
 - (c) ensure that the blasting cable is kept disconnected and short circuited at each end during the period holes are being charged;
 - (d) before connecting the cable to the blasting apparatus, personally connect the cable to the detonator leads;
 - (e) take care to prevent the cable from coming into contact with any power or lighting cable or other electrical apparatus or conductive materials;
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- (3) Where more than one shot are to be fired at the same time-
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 - (ii) wired rounds shall be kept shunted until they are being connected to the blasting line;
 - (iii) blasting lines shall be kept shunted until immediately before blasting;
 - (c) the circuit shall be tested either for electrical resistance or for continuity before connecting it to the blasting apparatus;
 - (d) any tests shall be made with an apparatus specially designed for the purpose and after all persons in the vicinity, including the blaster and his or her assistants, have taken adequate shelter.
- (4) Where blasting is carried out by means of electric power circuit-
- (a) the voltage and current shall be adequate for the number of detonators in the circuit and the manner in which these are connected;
 - (b) the blasting cables shall be isolated from the source of power by a double throw switch by means of which the cables when disconnected from the source of power are short circuited and earthed;
 - (c) the isolating switch shall be housed in a box with a lockable door;

- (d) the key to the door of the isolating switch box shall remain in the personal custody of the blaster on duty;
- (e) immediately after blasting the blaster shall disconnect the blasting cable from the source of power and lock the box.

(5) In opencast workings no attempt shall be made to charge, connect or blast a shot electrically if there is any sign of thunderstorm activity.

(6) No radio transmitters or other radio frequency fields shall be permitted at or near places where electric detonators are used without the permission in writing of the mine manager.

91 Examination after blasting

(1) After blasting has taken place in any part of the workings, no person shall enter such part or any place liable to be contaminated with dust, fumes or noxious gases until the blaster has examined such part or place and is satisfied that all charges have exploded and that it is safe to resume work.

(2) After a charge has been fired the blaster shall not approach within range of the exploding charge until such time that the air at the place of blasting is free from smoke, gas, fumes and dust.

92 Disposal of old, deteriorated or damaged explosives

(1) Any old or damaged explosives and explosives recovered in the workings from misfired holes or broken rock shall be kept in non-metallic containers provided for the purpose by the mine manager at suitable places.

(2) Any container referred to in subregulation (1) shall be-

- (a) of robust construction and be provided with an effective lock;
- (b) painted red and be clearly marked to indicate the type of explosives to be placed therein;
- (c) locked at all times except when the explosives have to be removed for destruction.

(3) Any old or damaged explosives and explosives recovered in the workings shall be destroyed at such intervals and in such manner as may be prescribed by the mine manager in consultation with the manufacturer or supplier of the explosives.

93 General safeguards in relation to handling of explosives

(1) No person shall smoke or light a fire or bring a naked light or flame, within a distance of 10 metres of any place where explosives are being handled or have been placed, nor shall any person who is engaged in handling explosives or who is travelling on a vehicle on which explosives are being conveyed, carry any means of producing a flame or spark.

(2) Any place where explosives are stored or explosives boxes or containers kept shall be clearly signposted.

(3) No person shall have in his or her possession explosives except as provided for in these Regulations.

(4) The mine manager shall have the right to cause any person to be searched for explosives at or in a mine at any time and no person shall hinder or obstruct such search.

(5) Where operations at a mine are to cease or be suspended, all explosives shall be removed to a safe place or destroyed.

(6) Except with the permission in writing of the chief inspector and subject to such conditions as he or she may specify, no shot shall be fired within 500 metres of any building, public thoroughfare, railway, power line or any place where people are present.

94 Explosives not to be left unattended

No explosives shall be left unattended at any place outside an explosives magazine or other authorized enclosed storing place.

PART XI

BLASTING CERTIFICATES (regs 95-99)

95 Issue of blasting certificates

Subject to the provisions of this Part, the chief inspector shall be competent to issue blasting certificates required for purposes of these Regulations.

96 Types of blasting certificates

- (1) A blasting certificate shall be-
- (a) either a provisional blasting certificate or a permanent blasting certificate;
 - (b) restricted to opencast mining operations or to underground mining operations, and shall be endorsed to the effect that it is so restricted.

(2) A blasting certificate shall be valid for an indefinite period, and only for the mine in respect of which it has been issued: Provided that such blasting certificate may, on application by the mine manager to the chief inspector in such form as may be determined by the chief inspector, be transferred from the mine in respect of which it is issued to any other mine.

(3) The chief inspector shall keep a register showing the full names and date of birth of each holder of a blasting certificate, the serial number and date of issue of the certificate and any restriction, if any, imposed in respect of such certificate.

97 Qualifications for blasting certificates

(1) Subject to the provisions of subregulation (3), a blasting certificate shall not be issued to any person, unless such person has, on an application made by him or her in such form as may be determined by the chief inspector, been admitted as a candidate for, and has passed such examination as may be determined by the chief inspector held in such form as may be so determined.

(2)(a) The examinations shall be held at such times and at such centres as may be fixed by the chief inspector and shall be conducted by such examiners as may be appointed by the chief inspector.

(b) The chief inspector shall not appoint a person as examiner under paragraph (a), unless such person is the holder of a blasting certificate similar to the certificate for which the examination is being conducted.

(3) No person shall be admitted as a candidate for any examination referred to in subregulation (1), unless such person-

- (a) has attained the age of 18 years;
- (b) possesses a valid first aid certificate;
- (c) possesses a medical certificate issued by a medical practitioner certifying that he or she is free from deafness, defective vision or any other infirmity, mental or physical, likely to interfere with his or her work;
- (d) can read and write English; and
- (e) has had at least the following number of shifts of experience, acceptable to the chief inspector, gained in the underground workings of a mine, namely-
 - (i) 180 shifts for a provisional underground blasting certificate;
 - (ii) 300 shifts for a permanent underground blasting certificate; or
- (f) has had at least the following number of shifts of experience, acceptable to the chief inspector, gained in the opencast workings of a mine, namely -
 - (i) 60 shifts for a provisional opencast blasting certificate;
 - (ii) 120 shifts for a permanent opencast blasting certificate.

98 Duplicate blasting certificates

The chief inspector may, upon proof to his or her satisfaction that a blasting certificate has been lost, defaced or destroyed or has become dilapidated, issue a copy marked "duplicate" of the blasting certificate.

99 Suspension or cancellation of blasting certificates

(1) If at any time the holder of a blasting certificate is in the opinion of the chief inspector guilty of misconduct or negligence in the execution of his or her duties or suffers from deafness, defective vision or any other infirmity, mental or physical, likely to be detrimental in the efficient discharge of his or her duties, he or she may report the matter in writing to the chief inspector.

(2) The chief inspector may, after considering the report of an inspector referred to in subregulation (1), direct the inspector to conduct an enquiry to determine whether or not such a person is fit to continue to hold a blasting certificate.

(3) At the conclusion of the inquiry the inspector shall submit his or her report to the chief inspector together with his or her findings, the evidence recorded during such inquiry and other relevant records.

(4) The chief inspector may, after having considered the report, findings, evidence and other records referred to in subregulation (3), decide to-

- (a) require the inspector to obtain further evidence or information;
- (b) suspend the certificate for a specified period;
- (c) cancel the certificate;
- (d) acquit the accused of the charges levelled against him or her.

(5) When the chief inspector decides to suspend or cancel a blasting certificate the chief inspector shall call for such certificate and make a suitable endorsement thereon.

PART XII

LIGHTING (regs 100-106)

100 General lighting

(1) The mine manager shall cause adequate general lighting arrangements to be provided-

- (a) on the surface at all workplaces and stairways, passageways and places in or attached to the plant which are used by persons and where natural light is insufficient;
- (b) in opencast workings-
 - (i) at any workplace during the hours of darkness;
 - (ii) at pit edges and similar precipitous places near any road in use; and
- (c) in underground workings-
 - (i) at any station in regular use;
 - (ii) in any travellingway in regular use;
 - (iii) at any place where machinery is erected in the proximity of which persons are working or moving about shall be so lighted whilst in operation that the external moving parts of such machinery can be clearly distinguished;
 - (iv) at grizzleys, ore bins, crushing and loading stations and such other places where persons are regularly at work; and
 - (v) at all first-aid stations.
 - (vi) at every room and place containing any engine, motor or other apparatus in regular use;

(2) The lighting provided in accordance with subregulation (1) shall, as far as is practicable, be so arranged as to prevent glare.

101 Emergency lighting

The mine manager shall cause emergency lighting adequate for the safety of persons to be provided in the event of the failure of any lighting referred to in regulation 96 which could present a hazard.

102 Carrying of lights in underground workings

(1) The mine manager shall provide any person employed or otherwise present in underground workings with a lamp to enable him or her to perform his or her duties in a safe manner, and no such person shall proceed or remain in underground workings without such lamp.

(2) Any lamp shall be maintained in good order.

103 Illumination of machinery

The mine manager shall cause all machinery in operation in the proximity of which persons are working or moving about to be lighted in such a manner that the external moving parts of such

machinery can be clearly distinguished.

104 Lighting arrangements in respect of mobile equipment

The mine manager shall ensure that any train, vehicle and other mobile equipment used in or at a mine shall be provided with its own lighting arrangements.

105 Illumination of haul roads

The mine manager shall cause the safe driving zones on roads in opencast workings to be marked by lights or other marker guides which are clearly visible at night.

106 Standards of lighting

If in the opinion of the chief inspector any lighting arrangement purporting to have been provided in terms of this Part is inadequate, he or she may require the mine manager by notice in writing to provide such additional lighting arrangements as may be specified by him or her in such notice.

****PART XIII**

WINDING (regs 107-160)

107 General requirements of winding installations

The mine manager shall ensure-

- (a) that any part of a winding installation, including the headframe, is of sound construction and adequate strength;
- (b) that such installation is maintained in safe working order;
- (c) that the engine of the winding installation is firmly connected to a rigid foundation and so designed, constructed and maintained that, with the power provided, the raising and lowering of persons, material or rock is carried out easily, regularly and safely.

108 Winding engines and installations

Before any winding installation is installed, the mine manager shall submit to the chief inspector -

- (a) a plan showing the location of the shaft together with the general layout of the proposal;
 - (b) details, including the factors of safety, of winding machinery and any shaft conveyance;
 - (c) particulars of any rope and any attachments to any shaft conveyance with its factors of safety;
 - (d) details of the design of the headframe, associated bins and the provision to be made in the headframe to deal with overwinds.
- (2) The chief inspector may by notice in writing require the mine manager -
- (a) to furnish such additional design particulars and other information;
 - (b) to make such additions or alterations to the installation, as may be specified by him or her in such notice.

109 Availability of winders

The mine manager shall, where the usual means of exit from underground workings is by winding, ensure -

- (a) that the winder is kept ready for use and, except in the case of an automatic winder, a winding engine driver remains in control of such winder while any person is underground;
- (b) that the source of power to the engine of such winder is not cut off unless and until it is safe to do so.

110 Depth indicators

The mine manager shall ensure -

- (a) that any winder is, in addition to any marks on the rope, provided with reliable depth indicators which shall clearly and accurately show -
 - (i) the position of the shaft conveyance;

- (ii) the places in the shaft at which reduction in winding speed is necessary;
- (b) that provision is made to warn the driver of the winding engine of -
 - (i) the arrival of the ascending shaft conveyance at a point in the shaft;
 - (ii) the distance of which from the uppermost station for persons is not less than the equivalent of three revolutions of the drum or sheave of the winder;
- (c) that, in the case of a single drum winder, a similar device is fitted to warn the driver of the winding engine of the approach of the descending shaft conveyance to the lowest station for persons.

111 Speed indicator and tachograph

The mine manager shall -

- (a) ensure that any winder is fitted with a speed indicator and a tachograph, and is used and maintained in working order;
- (b) fix the maximum speed at which the winder shall run.

112 Speed control

The mine manager shall ensure that any winder is provided with an automatic contrivance so as to prevent over winding and over speeding.

113 Overwind preventer

The mine manager shall ensure that in the shaft headframe or tower a device is provided which shall cut off the power from the winding engine and bring the winding drum or driving sheave to rest by automatic application of the brakes before any shaft conveyance, counterweight or attachments reaches any permanent obstruction to its passage.

114 Winder brakes

(1) The mine manager shall ensure that each drum of any double drum winder is provided with one or more brakes or, in the case of a single drum winder, the drum of such single drum winder and the driving sheave of any friction winder is provided with two or more brakes, which -

- (a) shall act, if applied in any manner, directly on such drum or sheave, as the case may be;
- (b) shall be so designed, adjusted and maintained as to stop and hold the shaft conveyance under all conditions of loading, direction of travel and speed;
- (c) may be applied manually by the driver of the winding engine irrespective of the action of any safety device that may act to apply such brake or brakes;
- (d) shall be automatically applied when the supply of power to the winding engine fails, or when the pressure of any fluid or other medium used as a means of controlling the brakes falls below a predetermined level;
- (e) shall be automatically applied if an earth fault occurs in the electrical control circuit of push button controlled winders;
- (f) if applied to the drum, shall be capable of supporting a load equivalent to two times the maximum static load normally hoisted by that drum from the lowest station;
- (g) if applied to the driving sheave, shall be -,
 - (i) capable of producing a braking torque, when conveying persons, of not less than three times, or, when conveying material or rock, of not less than two times, the maximum out of balance static torque which will be applied to the driving sheave by the normal loads to be carried by the winder,
 - (ii) not greater than 70 percent of that which will cause the winding rope to slip on the driving sheave, based on the minimum sliding co-efficient of friction between the rope and sheave;
- (h) shall, as far as is practicable, be provided with a steel tension member between individual sole plates of shoes.

(2) The mine manager shall ensure -

- (a) that the braking is designed in such a way that the failure of any one component in that system will not prevent the winder from being brought safely to rest;
- (b) that push button and automatically controlled winders is provided with a device which will automatically apply the brake before it becomes worn sufficiently to affect its safe operation;
- (c) that any part of any braking system has a minimum factor of safety of not less than 10, and screwed members in tension, the failure of which would render the brake inoperative, have a minimum factor of safety not less than 15.

115 Control selection

Where a winder is controlled by either a manual or an automatic mode, the mine manager shall ensure that the device for selecting the control mode is available only to a person duly authorized by him or her.

116 Emergency stop switch

The mine manager shall ensure -

- (a) that any winder is provided with a conveniently located emergency stop switch for the purpose of stopping the engine and applying the brakes;
- (b) where a winder is controlled from within a cage by push button controls, that a stop button is provided which, when operated, shall cause the winder to stop.

117 Acceleration control

The mine manager shall ensure that a shaft conveyance in which persons are travelling shall not be accelerated or decelerated by the winding engine at a rate greater than 1,5 metres per second per second, except in the case of an emergency, when deceleration shall not be more than 5 metres per second per second.

118 Backing out devices

The mine manager shall ensure that any device provided to permit backing out from an overwound position responds to manual control only and permits withdrawal from the overwind position only.

119 Flanges or horns

The mine manager shall ensure that any winding drum has flanges or horns, and if conical or spiral, such other appliances so as to prevent the rope from slipping off or coiling unevenly.

120 Minimum turns of rope on drum

The mine manager shall ensure that there is not less than three turns of rope upon the drum when the shaft conveyance is at the lowest station from which winding is carried on and the end of the rope is fastened securely round the arm or shaft of the drum.

121 Drum and head sheave

The mine manager shall ensure -

- (a) that the diameter of a drum or head sheave is not less than -
 - (i) in the case of a locked coil rope, 100 times the diameter of the rope;
 - (ii) in the case of any other rope, 80 times the diameter of the rope.
- (b) that the depth of the rope groove in the head sheave is not less than twice the diameter of the rope.

122 Driving sheave

The mine manager shall ensure -

- (a) that the diameter of the driving sheave of a friction winder, when measured at the bottom of the rope groove, is not less than -
 - (i) 100 times the diameter of the winding rope when locked coil ropes are used;
 - (ii) 90 times the diameter of the winding rope when flattened strands are used;
- (b) that the grooves of a multigrooved sheave are of substantially the same root diameter.

123 Deflection sheave

The mine manager shall ensure -

- (a) that the diameter of any deflecting sheave in a friction winding system is not less than 0,9 times the diameter of the corresponding driving sheave;
- (b) that the angle of contact of the rope on a deflecting sheave is of such a nature so as to prevent the rope slipping on the sheave.

124 Slip and direction indicator

The mine manager shall ensure that any friction winder is provided with -

- (a) a device which shall indicate slip of the rope relative to the driving sheave and stop the winder if a predetermined rate of slip is exceeded; and
- (b) a device for indicating in which direction the driving sheave is turning.

125 Operating levers

The mine manager shall ensure -

- (a) That any winding drum at the drivers right hand side shall have overlay rope; where only one drum is used it shall have overlay rope;
- (b) that the reversing lever of any air operated winder and the control lever of any electrically operated winder follows the overlay rope in the direction of movement;
- (c) where a hand-operated brake lever is provided on any winder, that it is pulled towards the driver to apply the brakes;
- (d) that the relief and throttle valve levers of any air operated winder is in a central position.

126 Locking devices

(1) The mine manager shall ensure that the operating mechanism of a clutch of any winding drum is provided with a locking arrangement which shall prevent -

- (a) the inadvertent withdrawal of the clutch;
- (b) the unclutching of the drum unless the brake or brakes of such drum are fully applied;
- (c) the release of the brake or brakes of such drum until the clutch is fully engaged and securely locked.

(2) If the clutch is not clearly visible from the operating position of the driver, an indicator shall be provided indicating to the driver at all times the extent to which the clutch is engaged or disengaged.

(3) Any bolts and other fillings of winding drums, brakes and clutches shall be rendered secure by means of suitable locking devices.

127 Ropes bars, links, chains or other connections

The mine manager shall ensure -

- (a) that no rope, bar, link, chain or other connection is used for winding purposes, unless it is of good quality and adequate strength;
- (b) that only steel wire rope is used for winding purposes and the gauge of the wires used in the construction of such ropes is suited to the diameter of the sheaves and drums.
- (c) that no rope which has been joined in any manner is used.

128 Particulars of ropes

(1) Before any rope is used for any winding purpose, the mine manager shall furnish to the chief inspector the following particulars of the rope, namely -

- (a) the name of the manufacturer;
- (b) the date of manufacture;
- (c) the coil number;
- (d) the length in metres;
- (e) the mass per metre in kilograms;

- (f) the diameter in millimetres;
- (g) the width and thickness in millimetres;
- (h) the type and length of lay;
- (i) the number of strands;
- (j) the class of heart;
- (k) the number of wires per strand;
- (I) the diameter of wires in millimetres;
- (m) the class of core;
- (n) the class of steel in wires;
- (o) the tensile strength of steel in mega pascals;
- (p) the breaking force in kilonewtons;
- (q) the rope test certificate number and place of test.

(2) Where in the opinion of the chief inspector the particulars of a rope furnished to him or her by the mine manager are insufficient or inadequate, he or she may require the mine manager to obtain a certificate by means of a test of the breaking force of the rope, and the mine manager shall thereupon obtain such a certificate and submit it to the chief inspector before using the rope.

(3) The test of the breaking force of the rope shall be carried out on a sample cut off at the end of the rope.

129 History of ropes

(1) The mine manager shall cause the history of any winding rope, balance rope, tail rope or guide rope in use to be entered in a rope record book.

(2) The record shall include -

- (a) the name and compartment of the shaft in which the rope is used;
- (b) the date on which the rope was installed;
- (c) the dates on which the rope was shortened;
- (d) the dates on which the rope was re-capped;
- (e) the dates of destructive and of non-destructive rope testing;
- (f) the result of destructive or non-destructive rope testing;
- (g) the date when the rope was removed from service and the reason therefor;
- (h) the dates of the examinations of the rope as required by these Regulations.

130 Requirements for winding ropes

(1) Where the winding system is such that it allows for the periodic testing of rope or ropes as required by regulation 128, a winding rope which is used without a balance rope or tail rope shall not be used for the raising or lowering of persons, material or rock if the breaking force at any point in the rope is less than whichever is the greatest of -

- (a) 10 times the effective combined weight of the shaft conveyance and its attachments and the maximum permitted number of persons or load of material; or
- (b) 9 times the effective combined weight of the shaft conveyance and its attachments and the maximum permitted load of rock; or
- (c) 5 times the effective combined weight of the length of winding rope, the shaft conveyance and its attachments and the maximum permitted number of persons or load of material; or
- (d) 4,5 times the effective combined weight of the length of winding rope, the shaft conveyance and its attachments and the maximum permitted load of rock.

(2) Where the winding system is such that it does not allow for the periodic testing of the winding rope or ropes as required by regulation 128 and a balance rope or tail rope is used, a winding rope shall not be used for the raising or lowering of persons, material or rock if the breaking force at any point in the rope is less than whichever is the greater of -

- (a) 9 times the effective combined weight of the length of winding rope, the shaft conveyance and its attachments, the maximum permitted number of persons or load of material, and one-half that of any tail carriage and sheave, but this factor may be reduced by 0,0015 for any metre of the length of the winding rope, provided that the factor shall not be less than -
 - (i) 7,5 where the shaft conveyance is suspended by a single winding rope;
 - (ii) 6,875 where the shaft conveyance is suspended by two or three winding ropes;
 - (iii) 6,25 where the shaft conveyance is suspended by four or more winding ropes; or
- (b) 8,1 times the effective combined weight of the length of winding rope, the shaft conveyance and its attachments, the maximum permitted load of rock, and one half that of any tail carriage and sheave, but this factor may be reduced by 0,00135 for any metre of the length of rope provided that the factor shall not be less than -
 - (i) 6,75 where the shaft conveyance is suspended by a single winding rope;
 - (ii) 6,19 where the shaft conveyance is suspended by two or three winding ropes;
 - (iii) 5,62 where the shaft conveyance is suspended by four or more winding ropes.

(3) Where the winding system is such that it allows for the periodic testing of the winding rope or ropes as required by regulation 128 and a balance rope or tail rope is used, a winding rope shall not be used for the raising or lowering of persons, material or rock if the breaking force at any point in the rope is less than whichever is the greater of -

- (a) 8,1 times the effective combined weight of the length of winding rope, the shaft conveyance and its attachments, the maximum permitted number of persons or load of material, and one-half of any tail carriage and sheave, but this factor may be reduced by 0,00135 for any metre of the length of winding rope provided that the factor shall not be less than -
 - (i) 6,25 where the shaft conveyance is suspended by a single winding rope;
 - (ii) 5,94 where the shaft conveyance is suspended by two or three winding ropes;
 - (iii) 5,62 where the shaft conveyance is suspended by four or more winding ropes; or
- (b) 7,29 times the effective combined weight of the length of winding rope, the shaft conveyance and its attachments, the maximum permitted load of rock and one-half that of any tail carriage and sheave, but this factor may be reduced by 0,0012 for any metre of the length of winding rope provided that the factor shall not be less than -
 - (i) 5,62 where the shaft conveyance is suspended by a single winding rope;
 - (ii) 5,34 where the shaft conveyance is suspended by two or three winding ropes;
 - (iii) 5,06 where the shaft conveyance is suspended by four or more winding ropes.

131 Requirements for balance ropes

The mine manager shall not permit the use of a balance rope or tail rope to be used if the breaking force at any point in any such rope is less than 6 times the effective combined weight of the balance rope or tail rope and one-half that of any tail carriage and sheave.

132 Rope testing and examination

- (1) The mine manager shall cause a rope used on a drum winder -
 - (a) to be recapped at intervals not exceeding six months or at such shorter intervals as the chief inspector may determine;
 - (b) at intervals not exceeding six months or at such shorter intervals as the chief inspector may determine, two metres to be cut from the shaft conveyance or

counterweight end and to be tested for purposes of determining the actual breaking strength and general condition of the rope;

(c) if required by the chief inspector, a sufficient length to be cut from the shaft conveyance or counterweight end to enable a breaking and elongation test to be made of 2 metres of the rope which has repeatedly passed over the head sheave.

(2) The mine manager shall obtain a certificate from the testing station showing the results of the test and make such certificate available to the chief inspector as soon as possible.

(3) A rope test certificate shall not be valid if it has been obtained more than 12 months prior to the date of use of that rope.

(4) Where there are two or more layers of rope on a drum, the rope used shall be cropped at intervals not exceeding 12 months at the drum end in a manner that will ensure that the position of the crossover points of the rope on the drum are changed.

(5) A rope which has previously been in service is used anew for any winding purpose shall immediately after its installation be examined over its entire working length by nondestructive methods.

(6) Where at any time the chief inspector requires that a rope used with a drum winder shall be examined over its entire working length by non-destructive methods the mine manager shall forthwith cause such examination to be made and inform the chief inspector as to the result of the examination as soon as possible.

(7) Any rope used in a friction winder shall be examined over its entire working length by non-destructive methods at intervals not exceeding six months.

(8) Trace recordings obtained during non-destructive examination of a rope shall be preserved as long as the relevant rope remains in use.

(9) Any abnormality recorded during any non-destructive examination of a rope shall be investigated and the findings recorded in the rope record book.

(10) At least once in each calendar month at intervals not exceeding 45 days the structure of any winding rope and any balance rope or tail rope shall be examined with a view to ascertaining the amount of deterioration thereof.

133 Periods of service of ropes

(1) The period of service of any rope shall be determined by the condition and strength of the rope.

(2) The mine manager shall discard a rope if it shows -

- (a) more than six broken wires in any section equal to the length of one external lay;
- (b) a rapid increase in the rate of stretch over the normal stretch noted during service;
- (c) marked corrosion;
- (d) any other unsafe condition.

134 Guide ropes

(1) The mine manager shall ensure that any shaft other than a shaft in the course of being sunk is provided with guides.

(2) A guide rope shall not be used if the breaking force at any point in such ropes is less than 6 times the effective combined weight of the rope and its tensioning weight.

(3) The provisions of subregulation shall not apply to any guide rope which is also used as a winding rope to raise or lower a stage, in which case the breaking force at any point in the rope shall not be less than 5 times the effective combined weight of the length of winding rope, and its share of the combined weight of the stage and attachments, the maximum permitted number of persons and the load of material.

(4) Any guide rope shall -

- (a) be of locked coil or road construction;
- (b) not be spliced.

(5) The counter weights and their relevant essential parts shall be kept exposed so as to permit regular examination.

135 Shaft conveyances

(1) The mine manager shall ensure that at any shaft which is used for the raising and lowering of persons, a shaft conveyance is provided for the conveyance of persons.

(2) The maximum number of persons allowed to travel in a shaft conveyance at any one time shall be fixed by the mine manager so that at least 0,2 square metres of floor space is allowed for each person in the shaft conveyance.

(3) The mine manager shall ensure -

- (a) that a shaft conveyance used for the conveyance of persons is provided with a substantial roof or top cover that will safeguard the occupants;
- (b) that a shaft conveyance has a minimum clear height of two metres from the floor to the top cover;
- (c) that a multi-deck cage has a trap door fitted in each intermediate deck with a ladder or rungs so as to provide access between decks;
- (d) that the sides of each deck of a cage is covered with metal plate or mesh as to protect any part of any person or material from protruding outside the cage;
- (e) that any cage is provided with a securely fastened gate or gates so arranged that they cannot be opened outwards or accidentally;
- (f) that the floor of any shaft conveyance is kept clean and provision is made to ensure adequate ventilation for persons travelling in the shaft conveyance;
- (g) that each shaft conveyance is provided with its own distinguishing number.

(4) Except as provided for in subregulation (5), any shaft conveyance used for examining, repairing or doing other work in a shaft shall be provided with a substantial roof or cover and shall be securely enclosed or otherwise adequately protected to prevent accidents to persons.

(5) Where the roof or cover of a shaft conveyance is used as a platform for persons engaged in examining, repairing or doing other work in a shaft, the persons so engaged shall be protected by a hood or cover immediately above them.

(6) The load bearing components of any shaft conveyance used for the conveyance of persons shall have a minimum factor of safety of 10.

136 Attachments between ropes and shaft conveyances

(1) The mine manager shall ensure -

- (a) that the attachments between -
 - (i) any winding rope and the shaft conveyance or counterweight;
 - (ii) any balance rope or tail rope and the shaft conveyance or counterweight;
 - (iii) any connecting rope and the shaft conveyance and any other attached shaft conveyance,

are of such a nature that no accidental disconnection can take place;

- (b) that all attachments and their component parts are marked clearly for the purpose of identification;
- (c) that the component parts of the attachments between the winding rope or balance rope and the cage, skip, kibble or counterweight shall each have a minimum factor of safety of 10.

(2) The means of securing a winding rope to a shaft conveyance or counterweight shall be of a proven design.

(3) Multiple winding ropes used in friction winders shall be attached to the shaft conveyance or counterweight through apparatus designed to load the ropes as uniformly as practicable.

(4) The mine manager shall cause the history of all attachments in use is entered in a record book which shall include -

- (a) the name of the shaft and compartment in which the attachments is used;
- (b) the identification number of the attachments;

- (c) the date on which the attachments was installed;
- (d) the dates of the examination of attachments, required by these Regulations;
- (e) the date when the attachments was removed from service and the reason therefor.

137 Examination and annealing or heat treatment of attachments

The mine manager shall ensure -

- (a) that the attachments between -
 - (i) any winding rope and the shaft conveyance or counterweight;
 - (ii) any balance rope or tail rope and the shaft conveyance or counterweight,

at intervals not exceeding six months or, in the case of attachments made of special steel, at such extended intervals as may be specified by the chief inspector, are examined and annealed or given other proper heat treatment or to be discarded and replaced.;

- (b) that a proper record is kept of the examination and heat treatment done in terms of paragraph (a).

138 Detaching hooks

(1) The mine manager shall ensure -

- (a) that a winding system in a vertical shaft, other than any such shaft in the course of being sunk in respect of which the end of the winding rope is fastened to the winding drum, is fitted detaching hooks to detach from the winding rope any shaft conveyance overwound in the headgear and to support it;
- (b) that the distance between the detaching device on the head frame and the matching portion on the shaft conveyance is at least three metres when the shaft conveyance is at its highest normal operating position.

139 Spring keps or jack catches

The mine manager shall ensure that where winding is carried on in a shaft there is fitted above the bank, spring keps or jack catches or some other contrivance to support any shaft conveyance detached from the winding rope as a result of an overwind.

140 Retarding device

The mine manager shall ensure that a winding system in respect of which the winding rope is not fastened to the winding drum -

- (a) the headgear is carried sufficiently high to allow a clearance of at least 7,5 metres in which the shaft conveyance can travel above or beyond the highest station for persons;
- (b) the shaft is carried sufficiently deep to allow an overrun space of at least 7,5 metres in which the shaft conveyance can travel below or beyond the lowest station for person;
- (c) the over-run space in the headgear above the highest established stopping place is provided with rigid guides or other appliances so arranged that an overwound shaft conveyance is retarded to minimise the risk of the shaft conveyance coming into contact with the rope sheave or the buffer stops in the headgear,
- (d) the over-run space at the bottom of the shaft below the lowest established stopping place is provided with rigid guides or other appliances so arranged that an overwound shaft conveyance is retarded and arrested before it can come into contact with any fixed obstacle.

141 Conveyance of persons and material

(1) No person shall travel in or on a shaft conveyance, unless he or she is duly authorized to do so by the mine manager.

(2) The mine manager shall cause -

- (a) a notice showing the maximum number of persons permitted to travel in a shaft conveyance at any one time to be prominently displayed on the outside of the shaft conveyance, at the bank and at any station from which winding is carried on;

- (b) where the conveyance of persons is not permitted in any shaft, a notice to that effect to be prominently displayed at the bank and at any station from which winding is carried on.
- (3) No person shall travel -
 - (a) in a shaft conveyance if such conveyance is loaded or partially loaded with rock;
 - (b) in a shaft conveyance which is being used simultaneously for the winding of rock;
 - (c) in or on any shaft conveyance which contains timber, pipes, rails, explosives, or any other material or substance likely to endanger the safety of persons;
 - (d) in a deck of a multi-deck cage while a load other than persons is in a higher deck.
- (4) The provisions of paragraph (c) of subregulation (3) shall not apply to -
 - (a) a person repairing a shaft from travelling in or on a shaft conveyance with tools or materials necessary for repairing the shaft;
 - (b) a person carrying small tools in a suitable container provided by the mine manager;
 - (c) a person travelling with his or her instruments;
 - (d) an onsetter travelling in a shaft conveyance with tools, explosives or materials;
 - (e) any person designated by notice in writing by the mine manager from travelling in circumstances specified by the mine manager in such notice.
- (5) An onsetter or person referred to in subregulation (4) shall not travel with -
 - (a) any material or article that is not securely fastened to, or secured, in the shaft conveyance;
 - (b) drill steel, timber, pipes or material of similar form.
- (6) No skip or bucket shall be filled to such a height that any of the contents can fall out.
- (7) No shaft conveyance or material that can sway shall be allowed to leave the bank or a station unless such shaft conveyance or material has been steadied.
- (8) When a winder is being used for the conveyance of persons and its operation is under automatic mode, it shall not be capable of motion, unless all shaft doors and the cage doors in connection with that winder are properly closed.

142 Shaft conveyances, embarking and disembarking facilities

The mine manager shall cause proper provision to be made at the bank and at any station for persons to embark and disembark from a shaft conveyance safely.

143 Restriction on the conveyance of persons with one drum out of gear

- (1) Where a winder is provided with two drums no person, except in an emergency, shall be raised or lowered in a shaft conveyance while one of the drums is out of gear and loose on the drum shaft on which it operates.
- (2) In the case of a double drum winder with one drum out of gear the mine manager shall ensure that such drum is prevented from revolving whilst out of gear.

144 Application of brakes

- (1) Except in an emergency no person, material or rock shall be lowered by means of the brake alone.
- (2) The winding engine driver shall ensure that while persons are embarking to or disembarking from a shaft conveyance, the brake is fully applied.

145 Ratio of person or material load to rock load

The mine manager shall ensure that the total mass attached to the winding rope when persons or material are conveyed does not exceed 0,9 times the mass attached to the winding rope when rock is conveyed.

146 Loading limitation

The mine manager shall ensure that a friction winder is not loaded to the extent that will require more than 70 percent of the available friction torque.

147 Scheme for examination of winding installations, shaft fittings and shaft signalling arrangements

(1) The mine manager shall formulate a scheme for the systematic examination and testing of winding installations, shaft fittings and shaft signalling arrangements in use.

(2) Where any examination or test carried out in terms of a scheme referred to in subregulation (1) reveals any weakness or defect by which the safety of persons may be endangered, the mine manager shall suspend winding operations until such weakness or defect is remedied except in so far as may be necessary to remedy such weakness or defect.

(3) The results of all examinations and tests carried out in terms of any scheme referred to in subregulation (1) together with the action taken to remedy any weakness or defect detected, where necessary, shall be recorded according to the prescribed scheme without delay.

148 Trial run after repairs to winding installation

(1) The mine manager shall ensure that a shaft conveyance is not used for the raising or lowering of persons until it has made at least one complete trip up and down the working portion of the shaft following -

- (a) any repairs to the winding installation;
- (b) any replacement of rope, attachments, shaft conveyance or any other equipment;
- (c) any repairs to the shaft; -
- (d) any stoppage in winding exceeding one hour duration;
- (e) the occurrence of any seismic event.

(2) The up and down trip referred to in subregulation (1) shall be made with the winder under manual control and at a speed not greater than half the normal speed of winding.

149 Drivers logbook

(1) The mine manager shall cause a drivers logbook to be kept in the winding engine room in which shall be recorded -

- (a) any special instructions involving the safety of persons given to the winding engine driver and the time such instructions were given;
- (b) the contents of the shaft conveyance and the last signals received by the winding engine driver when his or her relief is about to take over, and such report shall be countersigned by the winding engine driver by whom he or she is relieved.

(2) Any entry in the drivers logbook shall be signed by the person giving the instruction and shall be countersigned by the winding engine driver.

150 Winding during repairs in shafts

(1) The mine manager shall ensure that no winding operation is carried on in any shaft or a headgear while persons are engaged in effecting repairs, conducting an examination or doing other work in such shaft or headgear, except -

- (a) where such winding operations are necessary for the purpose of effecting the repairs, conducting the examination or doing the other work;
- (b) where the persons engaged in effecting the repairs, conducting the examination or doing the other work are adequately protected from the shaft conveyances and other winding equipment used in such winding operations as well as from falling objects.

(2) No person shall effect repairs, conduct an examination or do other work in a shaft or a headgear while winding operations are being carried on in such shaft or headgear, except -

- (a) where such person is adequately protected from the shaft conveyances and from other winding equipment as well as from falling objects;
- (b) where the winding operations are necessary for such person to effect the repairs, conduct the examination or to do the other work.

151 Scheme for shaft repairs

The mine manager shall formulate a scheme detailing the procedure to be followed and precautions to be taken, including the protection from falling objects, during -

- (a) repairs or examination in a shaft or headgear,

- (b) any work in connection with maintenance or installation of equipment in a shaft or headgear

152 Shaft signalling systems

The mine manager shall ensure -

- (a) that any shaft in which winding is carried on other than a shaft in the course of being sunk is provided with an efficient and safe signalling system in respect of each winder for interchanging distinct and definite signals between -
 - (i) the winding engine driver and the bank;
 - (ii) the winding engine driver and any station from which winding is carried on.
- (b) that any shaft where persons travel on or in a shaft conveyance while carrying out any examination, repair or other work is provided with an efficient means whereby persons carrying out such examination, repair or other work can signal effectively from any depth in the shaft to the winding engine driver.

153 Electric signalling arrangements

(1) The mine manager shall ensure that, at any shaft other than a shaft in the course of being sunk where persons or material are conveyed and where the signalling system is operated by electricity, two separate, independent and efficient signalling arrangements (hereinafter referred to as "the locked-bell" and "call-bell arrangements") are used for transmitting signals.

- (2) The locked-bell arrangement shall be for the interchange of signals between -
 - (a) the winding engine driver and the bank;
 - (b) the winding engine driver and any station from which winding is carried on,

but it shall not enable the banksman to signal on this arrangement to anyone but the winding engine driver.

(3) The signalling system shall be such that the winding engine driver can readily distinguish between signals received from the bank and signals received from any station.

(4) The signal operating mechanism at the bank and at all stations of the locked-bell arrangement shall be kept locked when not in actual use and the key shall be removable and, when not required, shall be retained by the banksman, onsetter or other authorized person.

(5) There shall be in use a bell-brake interlocking device which automatically prevents the shaft conveyance from being raised or lowered after the winding engine driver has given a signal on the locked-bell arrangement until he or she has received a return signal on that arrangement.

- (6) The call-bell arrangement shall enable signals to be transmitted -
 - (a) to the winding engine driver from the bank;
 - (b) to the winding engine driver from any station from which winding is carried on,

and shall also enable signals to be interchanged between the bank and any station from which winding is carried on, but it shall not enable the winding engine driver to transmit signals on this arrangement.

(7) The tone of the bells on the call-bell arrangement shall be such as to be readily distinguishable from that of the locked-bell arrangement.

(8) The signal operating mechanism of the call-bell arrangement shall be accessible to any person employed in or at the mine to transmit signals.

154 Code of signals

- (1) The following code of signals shall be observed, namely:

1.....	Raise when engine at rest
1	Stop when engine in motion
2	Lower

3	Persons about to travel
3	In reply: persons may continue to travel or may enter the shaft conveyance for the purpose of travelling
3	From engine-driver when the shaft conveyance containing persons is brought to rest at a station: persons may leave the shaft conveyance
2 pause 2	From driver (clear signal requested): driver wishes to start the winder at his or her discretion
2 pause 2	To driver (clear signal): driver may start the winder at his or her discretion
2 pause 2 pause 2	From driver persons must leave the shaft conveyance
2 pause 2 pause 2	In reply: no persons in the shaft conveyance Cancel or repeat signal
3 pause 3 pause 3	Person giving signal about to travel
3 pause 3 pause 3	In reply: acknowledgement by driver that person signalling is about to travel
4 pause 1	Raise slowly
4 pause 2	Lower slowly
4 pause 3	To driver mark signal
4 pause 4	In reply: acknowledgement by driver of "mark" signal
4 pause 4 pause 4	To driver clutching signal.
4 pause 4 pause 4	In reply: clutching operations completed.
5 pause 5	To driver explosives about to be placed in the shaft conveyance
5 pause 5	In reply: explosives may be placed in the shaft conveyance
5 pause 5	From driver when shaft conveyance containing explosives is brought to rest at a station; explosives may be removed from the shaft conveyance
5 pause 5 pause 5	To driver no explosives in the shaft conveyance.
5 pause 5 pause 5.....	In reply acknowledgement by driver that there are no explosives in the shaft conveyance.

6 pause 6	To driver winding compartments served by winder locked
6 pause 6	In reply acknowledgement by "compartments locked" signal
6 pause 6	followed by station signal to driver winding compartments served by winder locked below station designated.
6 pause 6	followed by station signal acknowledgement by driver of "compartments locked below station designated" signal
6 pause 6 pause 6	To driver compartments served by winder reopened
6 pause 6 pause 6	In reply: acknowledgement by driver of "compartments served by winder re-opened" signal.
6 pause 6 pause 6 pause 6	To driver shaft examination and repairs about to take place.
6 pause 6 pause 6 pause 6	In reply: acknowledgement by driver of "shaft examination and repairs" signal.
7	To driver persons about to have access to the shaft conveyance for a purpose other than travelling or the loading or unloading of rock in trucks or of material.
7	In reply: person may have access to shaft conveyance for a purpose other than travelling or the loading or unloading of rock in trucks or of material.
7 pause 7	To driver shaft conveyance is clear of all persons who have had access to it for a purpose other than travelling or the loading or unloading of rock in trucks or of material
7 pause 7	In reply: acknowledgement by driver of "persons clear" signal
8	To driver raising or lowering of rock in trucks or of materials about to commence
8	In reply: acknowledgement by driver that raising or lowering of rock in trucks or of material is about to commence
1	From driver persons may have access to shaft conveyance for the purpose of loading or unloading rock in trucks or material
8 pause 8	To driver raising or lowering of rock in trucks or of material completed
8 pause 8	In reply: acknowledgement by driver that raising or

		lowering of rock in trucks or of material is completed
15		Electrician testing bells
15	In reply: acknowledgement of "bell testing" signal.
15	Electrician has completed test
10	followed by station signal Accident to person: station where shaft conveyance is required
1	long ring	Accident to shaft: winding operations to be suspended immediately in all compartments of the shaft.

(2) The mine manager shall formulate a code of signals for the identification of the bank and each station in the shaft.

(3) Where necessary the mine manager may formulate a special code of signals to cater for specific circumstances.

155 Code of signals to be posted up

(1) The mine manager shall cause a copy of the code of signals to be posted in the winding engine room and at the bank.

(2) At any station from which winding is carried on at least the following signals shall be displayed -

- (a) station signals;
- (b) accident signals.

156 Use of shaft conveyances

No person shall -

- (a) enter or have access to;
- (b) continue to travel in;
- (c) leave,

a shaft conveyance, unless and until the appropriate signals have been exchanged.

157 Giving of signals

No person other than a winding engine driver, banksman, onsetter or other person duly authorized thereto by the mine manager for such purpose shall -

- (a) give or be permitted to give the signals prescribed by or under these Regulations for the use of any shaft conveyance except a signal indicating the occurrence of an accident;
- (b) in any way interfere with the signalling arrangements.

158 Radio communication devices

Where a winder is capable of operation under push button control, the mine manager shall cause a radio communication device to be provided inside any shaft conveyance used for the conveyance of persons for purposes of communication from within the shaft conveyance to surface.

159 Entry in winding engine rooms

No person shall -

- (a) enter or be permitted to enter any winding engine room unless he or she is authorized to do so by the mine manager;
- (b) in any way distract the attention of the person operating a winder while it is in motion.

160 Scheme for regulating winding operations

The mine manager shall formulate a scheme detailing the procedure to be followed and precautions to be taken so as to ensure that winding operations are conducted safely and efficiently.

**PART XIV
HAULAGE AND TRANSPORT (regs 161-168)**

161 Scheme to regulate movement of vehicles

(1) The mine manager shall formulate a scheme to regulate the movement of any vehicle in use on any road in the mine.

(2) The scheme referred to in subregulation (1) shall include provisions regarding -

- (a) the maximum speed at which any vehicle may run;
- (b) the maximum load to be conveyed by each vehicle;
- (c) the operating procedures to be followed;
- (d) the types and kinds of lights, including headlights, tail lights or clearance lights, with which trackless vehicles shall be equipped;
- (e) the special precautions to be taken at specified points on the haulage system;
- (f) the conditions under which conveyance of persons may be permitted.

162 Scheme for examining and maintaining haulage systems

The mine manager shall -

- (a) formulate a scheme for the systematic examination and maintenance of vehicles, tracks and all other equipment used in the operation of haulage systems;
- (b) cause the results of such examinations and tests to be recorded.

163 Locomotives

(1) The mine manager shall cause any locomotive to be equipped with the following devices and systems, namely -

- (a) effective headlights and rear lights;
- (b) at least two braking systems;
- (c) an effective audible warning device;
- (d) a sanding device;
- (e) a speedometer;
- (f) controls so placed that the driver can simultaneously operate them and see ahead without leaning out of the locomotive;
- (g) a suitable dead-man control;
- (h) a fixed seat for the driver.

(2) A locomotive shall -

- (a) not be used on any track where the gradient exceeds eight percent;
- (b) not be left unattended unless brakes of sufficient strength to hold the whole train stationary have been applied;

(3) The mine manager shall ensure -

- (a) that stopblocks, derail devices or other adequate means shall be installed where necessary to protect persons from runaway or moving trains;
- (b) that rails, joints, switches and other elements of any rail track as well as bridges, culverts and other structures supporting are designed, installed and maintained in a safe manner consistent with the speed and type of haulage.

164 Trackless vehicles

(1) The mine manager shall ensure -

- (a) that any self-propelled trackless vehicle is equipped with the following devices and systems -
 - (i) effective lights;
 - (ii) at least two braking systems;
 - (iii) an effective audible warning device;
 - (iv) a speedometer;
 - (v) a fixed seat for the driver;
- (b) that the braking system is capable of effectively stopping and holding the vehicle stationary when fully loaded, under any condition of operation when driven correctly;
- (c) that the design and layout of the operators cab is, as far as is practicable, such as to give protection to the driver against environmental hazards including inclement weather, heat, cold, noise and airborne dust;
- (d) that the operators cab of any vehicle used for rock haulage is constructed so or reinforced so as to resist damage by spillage;
- (e) that the cab windows consist of safety glass.

(2) A vehicle shall not be left unattended, unless all operating controls are in the neutral position and the brakes are set or other equivalent precautions are taken to guard against rolling.

165 Driving or operation of mine vehicles

- (1) No person shall drive or operate any mine vehicle -
 - (a) on a mine road, unless he or she has been duly authorized to do so and has received adequate instruction and training for the duties he or she has to perform;
 - (b) in such a manner as to endanger the safety of the mine or the safety or health of any person therein.
- (2) A driver or an operator of a mine vehicle shall -
 - (a) ensure that -
 - (i) the brakes
 - (ii) the warning devices;
 - (iii) the lights, when used between the hours of sunset and sunrise on surface or at any other time whenever necessary, and at all times when used in underground workings, are in good working order.
 - (b) not leave the controls of his or her vehicle unattended while -
 - (i) the bucket of the front-end loader, backhoe or other excavating machine;
 - (ii) the blade of a bulldozer;
 - (iii) the platform or forks of a fork lift truck;
 - (iv) the load on a crane or other hoisting machinery,

is in a raised position, unless it is safely supported by a suitable prop or props or the area is safely guarded or fenced.

- (3) The mine manager shall ensure -
 - (a) that no ropeway and no vehicle running on rails which uses a ropeway system is used for the purpose of conveying persons to and from their workplaces, unless such system has been specially designed for the conveyance of persons;
 - (b) that any vehicle running on rails which is used for the conveyance of persons is provided with such safety devices as are necessary to prevent accidents likely to cause bodily injury to persons and that such devices are properly maintained;

(c) that, where a track leads up to a shaft, a sufficiently strong stop block or other suitable device is installed on the track to prevent a tub, mine car or locomotive from accidentally entering the shaft.

(4) No person shall ride in or on any vehicle, unless suitable and adequate accommodation has been provided for the purpose and he or she has been duly authorized to do so by the mine manager.

166 Scheme for safe conduct of haulage operations

Where haulage is effected manually the mine manager shall formulate a scheme for the safe conduct of the operations.

167 Mine roads

- (1) The mine manager shall ensure -
 - (a) that the gradient and radius of any part of a road on a mine shall be such that vehicles can negotiate the road safely;
 - (b) that, where persons are permitted to work or travel on roads used by vehicles and mobile equipment which may endanger the safety of such persons, refuge bays of appropriate dimensions are provided at suitable intervals for them to take shelter;
 - (c) that any single-lane road is, where appropriate, provided with -
 - (i) passing places, the whole of which shall be visible from both ends, or
 - (ii) adequate means of regulating the movement of vehicles.
 - (d) that the safe travelling width of a road in opencast workings between any bench face and edge of that bench is clearly demarcated;
 - (e) that such signs as may be necessary to control the speed and movement of vehicles making use of the roads are erected at suitable places;
 - (f) that any road with a planned gradient exceeding five percent is, where practicable provided with -
 - (i) emergency escape roads, which shall be spaced throughout the length of such road and will ensure that a runaway vehicle entering an emergency escape road can be safely brought to rest;
 - (ii) in the case of a road on the surface or in opencast workings, a shoulder barrier.

168 Conveyors

(1) At any mine where a conveyor is used, the mine manager shall formulate a scheme for the installation, operation and maintenance of the conveyor system.

- (2) The mine manager shall ensure -
 - (a) that any belt conveyor is provided with -
 - (i) an audible warning device which shall be sounded before starting the belt;
 - (ii) effective means within reach of persons to stop the belt from any point along its length but which shall not be capable of re-starting the belt;
 - (b) that, where two or more conveyors are used in series, sequence interlocking is provided which will automatically -
 - (i) stop all belts feeding a belt that has stopped;
 - (ii) prevent a belt from starting until the belt on to which it feeds is moving;
 - (c) that, where practicable, walkways fitted with suitable safety rails are provided at all elevated parts of conveyors for the safe passage of persons engaged in making examinations and repairs;
 - (d) that moving conveyors are not crossed except at designated places where crossover or cross-under bridges are to be provided;
 - (e) that, where the inclination of a conveyor is such as to give rise to danger from sliding objects, suitable devices are used to provide adequate protection against such

danger.

(3) No person shall -

- (a) enter any space underneath a conveyor unless adequate precautions have been taken to ensure the safety of any person entering such space;
- (b) ride on a conveyor belt.

PART XV MACHINERY (regs 169-175)

169 Design, use, operation, supervision and control of machinery

(1) The mine manager shall ensure -

- (a) that machinery used in connection with the working of a mine is of good design, sound construction, suitable material, adequate strength, free from defects, properly maintained and operated in a safe manner;
- (b) that no person uses, operate, supervises or controls any machinery unless he or she has received adequate instruction and training for the duties he or she has to perform and has been duly authorized to do so by the mine manager;
- (c) that any reasonable precaution is taken in connection with the use of machinery so as to ensure that the safety of persons employed on or about such machinery is not endangered.

(2) A person authorized to use, operate, supervise or control any machinery shall not absent himself or herself from, or cease to have effective supervision or control of such machinery while it is required to be used, unless relieved by another duly authorized person.

170 Scheme for examination and testing of machinery

The mine manager shall formulate a scheme for the systematic examination and, where required, testing of machinery so as to ensure the safe operation thereof.

171 Starting and stopping of machinery

(1) No person shall set any machinery in motion unless he or she has taken all reasonable precautions to ensure that no person can be endangered thereby.

(2) The mine manager shall ensure that any machinery used in the working of the mine is provided with a conveniently located starting and stopping appliance.

172 Safety measures during repairs, maintenance or cleaning of machinery

(1) The mine manager shall take such steps as may be necessary to ensure -

- (a) that when any machinery is stopped for repair, maintenance or cleaning purposes the power supply to such machinery is isolated and locked out;
- (b) that suitable warning signs or notices are posted at the switch and signed by the persons who are undertaking such repairs, maintenance or cleaning;
- (c) that such locks, signs or notices are removed only by the person who posted such signs or notices.

(2) The mine manager shall ensure -

- (a) that automatic devices for lubricating machinery whilst in motion is provided wherever practicable;
- (b) that, where it is impracticable to stop any machinery, the repairing, adjusting, testing, examining, cleaning or lubricating of any such machinery in motion is undertaken by no person other than a competent person.

173 Fencing and guards

(1) The mine manager shall ensure -

- (a) that any exposed machinery which, when in motion, may be dangerous to any person is securely fenced off;
- (b) that efficient guards is provided to such parts of any machinery as may be a source of danger to any person.

(2) No person shall wilfully or negligently damage or, without proper authority, remove or render useless any fence, guard, structure or any other safety provision.

174 Engines to be used in underground workings

The mine manager shall ensure that no internal combustion engine other than a compression-ignition diesel engine is used in underground workings.

175 General duties of operators

Any person authorized to use, operate, supervise or control any machinery shall

- (a) before commencing work ensure that such machinery is in safe working condition;
- (b) should any machinery during use appear in any way to be or to have become dangerous, immediately stop such machinery;
- (c) until such time as the defect has been rectified, not use such machinery.

PART XVI ELECTRICITY (regs 176-

189) 176 Selection and installation of apparatus

The mine manager shall take such steps as may be necessary to ensure -

- (a) that any electrical apparatus used in connection with the working of a mine is of a suitable design, sound construction, suitable material, free from any defects, properly maintained and protected in such a manner that no person can be injured by inadvertent contact with any live portion;
- (b) that any place where electrical apparatus is installed and which may constitute danger to persons is adequately fenced off or effectively enclosed.

177 Electrical control gear

(1) The mine manager shall ensure -

- (a) that any electrical installation and power line is provided with protective devices which shall, as far as is practicable, automatically isolate the power supply in the event of a fault developing on such installation or power line;
- (b) that switchgear is designed that it cannot be closed accidentally by gravity, impact or any other cause and is provided with a cover to prevent accidental contact with live parts;
- (c) that any controlling apparatus is marked or labelled prominently so as to identify the system or part of the system or the electrical machinery which it controls.
- (d) that, whenever work is to be carried out on electrical apparatus which has been isolated from all sources of supply and locked out, effective precautions are taken to electrically discharge such apparatus to prevent any conductor or apparatus from being made live accidentally or inadvertently while any person is working thereon.

(2) No person shall interfere with or render ineffective any protective device.

178 Diagram of electrical equipment

The mine manager shall ensure that a schematic diagram showing the up-to-date position of all permanent electrical equipment is kept.

179 Posting of notices

(1) The mine manager shall ensure that at places where electrical apparatus is installed which may constitute a danger to persons, notices are prominently displayed -

- (a) prohibiting any unauthorized person from entering, handling or interfering with apparatus;
- (b) containing directions as to the procedure to be followed in case of fire;
- (c) containing directions on the rescue and first aid treatment of persons suffering from electric shock or burns.

(2) Any person working with electrical equipment shall acquaint himself or herself with the notices posted under subregulation (1) and shall act in accordance with the directions therein.

180 Switch and transformer premises

The mine manager shall ensure -

- (a) that any enclosed premises housing switchgear and transformers is -
 - (i) of adequate size so as to provide safe working space for operating and maintenance staff;
 - (ii) constructed in such a manner that persons cannot reach in and touch bare conductors or exposed live parts of the electrical machinery;
 - (iii) sufficiently ventilated to maintain the equipment at a safe working temperature;
 - (iv) where necessary, provided with lighting that will enable all equipment, thoroughfares and working areas to be clearly distinguished and all instruments, labels and notices to be easily read;
 - (v) provided with unobstructed doors or gates which open outwards;
 - (vi) as far as is practicable, constructed so as to be proof against rodents, leakage, seepage and flooding.
- (b) that no person other than an authorized person enters premises housing switchgear or transformers.

181 Scheme for installation and use of electrical apparatus

(1) The mine manager shall formulate a scheme with respect to the installation, reinstallation and use of electrical apparatus at the mine.

(2) The scheme referred to in subregulation (1) shall include provisions concerning -

- (a) the examination and testing of all electrical equipment before it is energised after installation or re-installation;
- (b) the systematic examination and testing of all electrical apparatus to ensure proper maintenance thereof;
- (c) the nature of the examination and testing to be carried out;
- (d) the procedure to be followed and precautions to be taken to ensure the safety of persons working on electrical apparatus; and
- (e) the identification of installations and the recording of the results of examinations and tests.

182 Earthing

The mine manager shall ensure -

- (a) that any accessible metallic portion of electric plant or apparatus which, though not normally forming part of an electrical circuit, may accidentally become live, is either protected by insulating material or is connected to earth by a conductor of adequate cross-sectional area so as to prevent danger to persons;
- (b) that the cross-sectional area of any earthing conductor is calculated to be capable of withstanding the maximum possible earth fault current condition.

183 Earth leakage protection

The mine manager shall ensure -

- (a) that a suitable method of earth leakage protection is, as far as is practicable, provided for all alternating current circuits operating above extra low voltage;
- (b) that earth leakage protection equipment is provided with means by which tests of its operation may be made.

184 Lightning protection

The mine manager shall ensure that suitable equipment is provided to protect an electrical installation from abnormal voltage due to atmospheric electric discharge.

185 Cable installation

The mine manager shall ensure -

- (a) that any cable is properly placed, attached, connected and supported;

- (b) that the covering of an electric cable is-
 - (i) in the form of tape or tube enclosing one or more conductors to provide adequate mechanical protection;
 - (ii) continuous throughout;
 - (iii) securely attached to the apparatus to which such cable is connected;
 - (iv) suitably bonded at junctions.

186 Flexible cable or trailing cable

The mine manager shall ensure -

- (a) that only a flexible cable or trailing cable is used in connection with the operation of -
 - (i) any self-propelled mobile machine;
 - (ii) movable electrical apparatus;
 - (iii) portable electrical apparatus;
- (b) that any flexible cable or trailing cable is screened, where necessary, and such screens is earthed;
- (c) that, when blasting is to be carried out, cables are suitably protected from damage or be removed from the site prior to blasting;
- (d) that at any point where any flexible cable is joined to a main cable, a switch is provided to cut off the current from the flexible cable.

187 Signal and telephone cables

The mine manager shall ensure that signal and telephone cables are not allowed to come into electrical contact with each other or with any other electrical conductor

188 Operation of electrical apparatus

- (1) The mine manager shall ensure that no person operates any electrical apparatus, unless he or she has been instructed in its use and has been duly authorized to do so.
- (2) A person who operates a portable machine shall -
 - (a) carefully inspect the machine and the flexible cable attached thereto prior to operating the machine;
 - (b) on observing any defect shall not start the machine until the defect has been rectified; and
 - (c) satisfy himself or herself that the electric current is cut off from the flexible cable and machine before leaving the workplace.
- (3) The mine manager shall take such steps as may be necessary to ensure -
 - (a) that current is switched off from all conductors and apparatus which are not in use;
 - (b) that no work is undertaken on any live conductor or live part of apparatus: provided that where the apparatus must be live for the purpose of examination, adjustment, testing, repair or other work, such work may only be undertaken by a person duly authorized to do so;
 - (c) that any insulating material is suitable for the purpose for which it is used;
 - (d) that provision is made to confine safely any oil or other fluid which may escape from electrical apparatus;
 - (e) that, as far as is practicable, no metal ladder or ladder with metal reinforced tiles may be used for examination, repair or other work necessitating dangerous approach to or work on electrical apparatus.
 - (f) that no object is brought closer to a live power line than the distance specified in the following table-

Voltage of power line	Minimum clearance
up to 250 kilovolts	2 metres
251 to 400 kilovolts	3 metres
above 400 kilovolts	4 metres

(4) Any person employed in or at a mine shall immediately report overheating, arcing, electrical shock or damage relating to any electrical installation or apparatus which may come to his or her knowledge.

189 Precautions in explosive or flammable atmosphere

The mine manager shall, where explosive or flammable atmosphere is encountered, adopt such precautions, apparatus and methods of installation as may be specified by the chief inspector

PART XVII

PROTECTIVE EQUIPMENT, CLOTHING AND DEVICES (regs 190-207)

190 Scheme to identify hazards

(1) The mine manager shall formulate a scheme for identifying any harmful physical and chemical agents or other hazards present in the working environment.

(2) The mine manager shall ensure that any area identified as hazardous is properly signposted in which persons employed or otherwise present in or at a mine are warned of the possible hazards.

191 Protective equipment

(1) The mine manager shall provide persons employed or otherwise present in or at a mine with -

- (a) suitable protective equipment, clothing and face shields or goggles when engaged in welding or grinding or cutting or working with molten metal or when other hazards to the eyes exist;
- (b) suitable protective clothing to cover the whole body when handling corrosive or toxic substances or other materials which may cause injury to skin;
- (c) protective gloves when handling materials or performing work which may cause injury to hands;
- (d) safety helmets where falling objects may create a hazard;
- (e) suitable protective foot wear for either dry or wet application;
- (f) safety belts where there is danger of falling from a height;
- (g) life jackets or lifelines where there is danger of falling into water;
- (h) closely fitting clothing when working around moving machinery;
- (i) waterproof work garments when working under wet conditions;
- (j) fluorescent strips for safety helmets and highly visible clothing, where necessary; and
- (k) special protective equipment, clothing or devices when, in the opinion of the mine manager, they require such equipment, clothing or devices.

(2) Any person employed or otherwise present in or at a mine shall not use any protective equipment, clothing or devices other than such equipment, clothing or devices as is provided by the mine manager

192 Noise

(1) The mine manager shall ensure that no person employed in or at a mine while at work shall be exposed to a daily noise dose or peak noise level in excess of the standard specified by the chief inspector.

(2) Where at any place in a mine it is not practicable to comply with the standards specified under subregulation (1), the mine manager shall supply and cause to be constantly used hearing protective equipment to persons at such place.

193 Dust

Where at any place in a mine it is not practicable to comply with the standards specified under regulation 6%(2)(b), the mine manager shall supply to and cause to be constantly used such appliances as will prevent the dust from being breathed by persons.

194 Radioactivity

(1) Where radioactive substances are present or where ionising radiations are used, the mine manager shall identify and signpost all such areas and take such precautions and adopt such procedures as are necessary to protect any person from any danger.

(2) The whole body radiation and the working level of radon and thoron and their daughters shall not exceed the standards specified by the chief inspector.

195 Vibration

The mine manager shall, as far as is practicable, take such measures as may be necessary to minimise the adverse effects of vibration on the health of persons employed in or at a mine.

196 Prevention of accidents in handling electrical apparatus

The mine manager shall provide rubber mats, gloves or gauntlets or such other protective equipment as may be necessary to prevent accidents to persons employed or otherwise present in or at a mine engaged in the handling of electrical apparatus.

197 Hot and molten material

The mine manager shall ensure -

- (a) that where molten material is handled care is taken to minimize the possibility of spillage or explosion which could create a hazard to the safety of persons;
- (b) that adequate precautions is taken at all ash pits, ash heaps and other places where there are hot or molten material to ensure that no person is endangered by such material;
- (c) that notices is posted at conspicuous places warning persons of the danger.

198 Replacement of protective equipment, clothing or devices

The mine manager shall replace free of charge any protective equipment, clothing or device provided under these Regulations whenever it is rendered unserviceable by legitimate use.

199 Keeping of antidotes, washes and devices

The mine manager shall at any place in a mine where poisonous, toxic or hazardous substances are used or produced -

- (a) that there is kept available for use in a conspicuous place, a sufficient supply of satisfactory antidotes, washes and showers as near such substances as is practicable;
- (b) that such antidotes and washes are properly labelled with instructions for their use;
- (c) that persons at such places are informed of the possible hazards that may arise there and the precautions to be taken to guard against the same.

200 Access to poisons

The mine manager shall cause access to any poisonous toxic or hazardous substance to be restricted to duly authorized persons employed or otherwise present in or at a mine, and such substances to be kept under lock and key.

201 Insufficient or inadequate protective equipment, clothing or devices

If in the opinion of the chief inspector any protective equipment, clothing or device provided by the mine manager is insufficient or inadequate, he or she may require that additional or more suitable equipment, clothing or device be provided.

202 Sanitation

(1) The mine manager -

- (a) shall, on the surface and in the underground workings of the mine, provide and maintain sufficient and suitable latrine facilities of a high hygienic standard for both sexes;
- (b) shall cause such latrines to be adequately ventilated, illuminated and disinfected and to be kept in a clean condition.

(2) No person shall pollute the workings with faeces or urine, nor wantonly misuse or foul any latrine.

203 Waiting places

The mine manager shall ensure that every waiting place is kept in a clean condition.

204 Eating places

The mine manager shall ensure -

- (a) that suitable places be provided in a dry and well ventilated area which is maintained free from dust and vermin where persons employed in or at a mine may eat their meals;
- (b) that water for washing be made available within a reasonable distance of such eating places;
- (c) that an impervious receptacle with a lid be provided at the eating place and all waste food, paper and other rubbish shall be deposited in that receptacle which shall be emptied and cleaned at regular intervals.

205 Drinking water

The mine manager shall provide at the mine sufficient supplies of cool and wholesome drinking water at points reasonably accessible from workplaces.

206 Change houses

The mine manager shall provide a change house at any mine under his or her supervision and control where underground workings are undertaken and, if considered necessary by the chief inspector, at other workings for persons employed in or at such mine to wash themselves and change their clothes before leaving the mine.

207 Intoxicating drugs and drinks

(1) No person shall or be permitted to bring any intoxicating drink or drug into the workings of a mine.

(4) No person employed or otherwise present in or at a mine while at work shall consume any intoxicating drink or drug or be in a state of intoxication or drunkenness.

PART XVIII**MINE FIRES (regs 208-214)****208 Fire fighting**

The mine manager shall plan, equip and work the mine so as to minimize the risk of fire and establish an effective organization for the conduct of fire fighting work.

209 Precautions against fire

(1) The mine manager shall ensure -

- (a) that any place where any flammable or combustible substance is stored or used to be suitably signposted;
- (b) that any surface structure and support within a horizontal distance of 15 metres from all entrances to underground workings are, where reasonably practicable, constructed of incombustible material;
- (c) that no oil, grease or other flammable substances are stored in a mine except in a closed, leakproof and labelled fireproof receptacle;
- (d) that fuel oil and lubricants are conveyed only in suitable leakproof containers;

- (e) that fuel storage placed underground is located away from workshops, service stations or other places where persons are engaged in work and is not used for any other purpose;
 - (f) that greasy and oily waste in underground workings is regularly removed to the surface in suitable containers and disposed of in a safe and environmentally sound manner,
 - (g) that winding engine rooms, engine rooms, transformer rooms, workshops and any room where flammable substances are stored are constructed in a fireproof manner and are provided, where practicable, with a second outlet;
 - (h) that any filling station has an impervious floor with arrangements for the collection of spillage oil;
 - (i) that the refuelling of any vehicle is not carried out while the engine is running;
 - (j) that gas bottles are stored, handled and used in accordance with the instructions issued by the manufacturer or supplier.
- (2) No person shall at any mine -
- (a) place, throw or leave or cause or permit to be placed, thrown or left any naked light or flame or any burning lighting torch, match, cigarette, tobacco, paper or other burning material on or near any combustible material or flammable substance where it may cause danger of fire or explosion;
 - (b) smoke or carry an open light or other burning material in any shaft conveyance or in any battery charging station or filling station;
 - (c) light a fire in any underground workings or on surface within a distance of 15 m from any entrance to the underground workings unless he or she has been duly authorized to do so.

210 Storage of flammable or combustible substance

The mine manager shall ensure -

- (a) that no flammable or combustible substance is stored or kept in the immediate vicinity of a place where any transformer, switchgear or other electrical apparatus or heating appliance is situated;
- (b) that stocks of flammable or combustible substance is not kept in the vicinity of any shaft or outlet from underground workings;
- (c) that at all places underground where flammable or combustible substance is kept the ventilation is arranged so that, in the event of a fire, as far as is practicable, the products of combustion are coursed directly into the return airway;
- (d) that any storage tanks for flammable or combustible liquid are-
 - (i) designed and constructed so as to be capable of resisting the maximum working pressures and stresses and made of suitable material for any projected contents;
 - (ii) maintained in such a manner that leakage is prevented;
 - (iii) contained within structures capable of holding 110 percent of the contents of the tanks;
 - (iv) isolated or separated from ignition sources and combustible substances;
 - (v) vented or otherwise constructed to prevent development of pressure or vacuum as a result of filling, emptying or atmospheric temperature changes;
 - (vi) provided with piping, valves and fittings capable of withstanding working pressures and stresses;
 - (vii) provided with suitable earthing devices or arrangements.

211 Conveyor belts

The mine manager shall ensure-

- (a) that any conveyor belt which is installed or used in underground workings is, as far as is practicable, of incombustible or fire resistant material;
- (b) that suitable and adequate means for extinguishing fire is available for immediate use along any belt conveyor.

212 Fire-fighting equipment

- (1) The mine manager shall ensure -
 - (a) that the mine is equipped with a water mains circuit capable of delivering to all workplaces an adequate quantity of water at sufficient flow pressure for the purpose of fire-fighting, unless exempted by the chief inspector on grounds of natural conditions or size;
 - (b) that, where an outside fire-fighting organization is relied upon, uniform fittings or readily available adapters are provided for hydrants;
 - (c) that special places of risk duly identified by the mine manager are provided with suitable fire extinguishers, sand or incombustible substance.
 - (d) that fire extinguishers are examined and discharged and refilled as often as may be necessary to ensure that they are kept in good working order;
 - (e) that a record is kept of each examination and refilling referred to in paragraph (d);
 - (f) that fire extinguishers containing chemicals which are liable, when operated, to give off poisonous or noxious gases, with the exception of carbon dioxide, are not provided or used in underground workings;
 - (g) that soda-acid or foam type extinguishers or water are not used for fighting electrical fires;
 - (h) that soda-acid type extinguishers or water are not used for fighting oil fires.
- (2) Any places referred to in paragraph (c) of subregulation (1) shall include-
 - (a) any parts of a mine where flammable or combustible substances are stored;
 - (b) any driving unit of conveyors;
 - (c) any electrical sub-stations and places having electrical switchgear and machinery;
 - (d) any vehicles;
 - (e) any battery charging stations, workshops and filling stations, on surface, at any entrance to underground workings and, in underground workings, at any station.

213 Procedure in case of fire

(1) Any person who notices a fire in or at a mine shall, if possible, extinguish any such fire or otherwise raise an alarm without delay and cause such steps to be taken that the occurrence of the fire is brought to the attention of the mine manager without delay.

(2) Any person, except any person directed by the mine manager to stay for the purpose of dealing with any emergency in consequence of such fire, shall be withdrawn without delay from all places likely to be affected by fire or smoke, and only persons duly authorized thereto by the mine manager shall enter such places.

(3) The mine manager shall ensure that suitable precautions are taken to prevent danger to persons from any noxious or asphyxiating gases or smoke emanating from any fire.

214 Fire-fighting plan

The mine manager shall-

- (a) prepare a fire-fighting plan showing all locations at a mine where a fire hazard exists, the nature of the hazard and location and type of fire-fighting equipment provided;
- (b) have systematic examinations made of the fire fighting equipment provided and record the results of such examinations;
- (c) establish a fire alarm system to give prompt and adequate warning to persons who may be endangered by fire;

- (d) provide for a team or teams of trained persons, compatible with the size of the mine and the number of persons employed, to deal with the situation in case of fire.

PART XIX

FIRST AID (regs 215-219)

215 First aid centre

- (1) The mine manager shall ensure that the mine is provided with a first aid centre on surface, which shall be maintained in good order.
- (2) The first aid centre referred to in subregulation (1) shall be-
- (a) used only for first aid, medical examinations and ambulance work;
 - (b) adequately ventilated, lighted and kept clean;
 - (c) equipped to the satisfaction of the chief inspector with stretchers, medical and surgical appliances and remedies for treating persons suffering from noxious gases, fumes, burn, shock and other injuries;
 - (d) under the control of a qualified nurse or a person who has undergone an approved course of training in first aid and life saving techniques who shall at all times be available thereat and who shall have access to a medical practitioner in cases of emergency.
- (3) An ambulance or other suitable vehicle for transportation of injured or ill persons to hospital shall be readily available at the first aid centre.

216 First aid stations

- (1) The mine manager shall ensure that first aid stations, in addition to a first aid centre on surface, is provided at suitable locations on the surface, where the operations are spread over a large area or are otherwise considered necessary by the chief inspector and in underground workings.
- (2) A first aid station shall be under the charge of a person qualified in first aid and life saving techniques who shall be readily available during working hours.
- (3) A first aid station shall contain at least the following items, namely -
- (a) one stretcher with at least two clean blankets;
 - (b) one first aid box containing splints and tourniquets, triangular bandages, small, medium and large sterile packed dressings, cotton wool, safety pins, bottle of antiseptic, eye drops and a small pair of scissors;
 - (c) where practicable, a telephone so that the mine manager can be informed without delay of an accident which may need the attention of a doctor or nurse.

217 First aiders

The mine manager shall ensure -

- (a) that a sufficient number of persons employed in exploration activities on surface, in opencast workings and in underground workings undergo a course of training in first aid and hold first aid certificates issued by a competent authority or possess equivalent qualifications;
- (b) that a list of persons qualified in first aid is displayed at the first aid centre and first aid stations.

218 Reporting and recording of injuries

- (1) Any person who suffers an injury or has been exposed to smoke, blasting fumes or other noxious gases shall report for examination or treatment at the first aid centre before leaving the mine, even if the injury or suspected gassing has been attended to at a first aid station.
- (2) The mine manager shall ensure that a record of all injuries reported is maintained at the first aid centre.

219 Scheme for obtaining assistance

The mine manager shall, having regard to the operations conducted at the mine, formulate a scheme for obtaining medical and other assistance in the event of an emergency at the mine requiring such assistance.

PART XX
UNDERWATER MINING (regs 220-225)

220 Scheme for safe conduct of diving operations

(1) The mine manager shall formulate a scheme detailing the procedure to be followed and precautions to be taken to ensure the safety and health of persons employed in or at a mine engaged in diving operations.

- (2) A scheme referred to in subregulation (1) shall include provisions regarding -
- (a) the assignments and responsibilities of each diving team member for each diving mode used;
 - (b) safety procedures and checklists for each diving mode used;
 - (c) emergency procedures in the case of -
 - (i) fire;
 - (ii) equipment failure;
 - (iii) adverse changes in environmental conditions;
 - (d) procedure for
 - (i) emergency signalling;
 - (ii) emergency assistance under water and on the surface;
 - (iii) decompression including therapeutic recompression and decompression and the availability of compression chambers for such purposes;
 - (iv) first aid;
 - (v) obtaining medical assistance with specific reference to the need for consultation with a medical practitioner if decompression sickness should occur;
 - (vi) obtaining assistance from emergency services including advance liaison with those services where appropriate;
 - (vii) emergency evacuation of the work site;
 - (viii) the provision of emergency supplies.

221 Control of diving operations

- (1) The mine manager shall, before the commencement of any diving operations, ensure -
- (a) that the personnel necessary for rendering assistance to a diver, as well as those members of the personnel who may be required in case of an emergency, are on standby and that all equipment which may be required for use in case of an emergency is ready for immediate use;
 - (b) that persons who have been trained to operate compression chambers take charge of such chambers and remain on duty while such chambers are in use and are available while diving operations are in progress;
 - (c) that a diver who participates in a dive, is provided with all the necessary diving equipment in order to safeguard his or her health and safety;
 - (d) that a diver who participates in a dive is trained in the use of the diving equipment concerned;
 - (e) that all diving equipment used for any diving operation is examined and tested before use by the diving team;
 - (f) that the maximum bottom time of a dive, the decompression schedule and the technique to be used in any diving operation are made known to and are understood by the diving team;
 - (g) that the diving team has been trained with regard to the procedures to be followed in case of emergency.

- (2) The mine manager shall, during the performance of any diving operations, ensure -
- (a) that the diving operations are carried out safely and strictly in accordance with the scheme formulated under regulation 215(1) and that the bottom time and decompression schedule referred to in subregulation (1)(f) are strictly adhered to;
 - (b) that at least the following persons are and remain on duty at the control point on the surface of the water -
 - (i) a standby diver who shall be in immediate readiness to dive: Provided that where two divers are in the water at the same time and are near enough to each other to communicate with and render assistance to each other in an emergency, the one may be deemed to be a standby diver for the other Provided that where a diving bell is used, the standby diver shall descend in the bell to the depth from which work is carried out and shall remain in the bell so as to be able immediately to render assistance to the diver working from the bell;
 - (ii) a line attendant, if a lifeline is used;
 - (iii) such other persons as are necessary to man any machinery and equipment which may be required during the diving operation;
 - (iv) at least one person who is competent to render first aid and who has a thorough knowledge of the first aid treatment to be applied and the use of all equipment used in cases of drowning, decompression sickness and other ailments associated with diving operations; and
 - (v) a person who is a competent life support technician when saturation or bell dives are undertaken;
 - (c) that no diver who on account of indisposition or physical or mental infirmity considers himself or herself unfit to participate in diving, participates in any diving;
 - (d) that each diver is able to communicate with the surface control point, except where a buddy line is used in which case at least one of the divers shall be able to communicate with the surface control point;
 - (e) that for all diving modes, a sufficient supply of the appropriate breathing mixture is readily available at the required pressure to provide for all the activities of the diving team for the duration of the diving operation;
 - (f) that all steps are taken to ensure that compressed air supplied to divers is pure;
 - (g) that where a diving operation is to be carried out at night -
 - (i) a lamp or other device is attached to the diver to indicate his or her position when he or she is on the surface, and
 - (ii) the place on the surface or the bell from which the diving is carried out, is illuminated: Provided that where such illumination is undesirable, it may be switched off during the diving operation;
 - (h) that the appropriate warning signals are given and the appropriate signs are prominently displayed while diving is in progress;
 - (i) that a boat is kept readily available for rescue purposes if the possibility exists that the diver may surface away from the control point in the course of a dive;
 - (j) that all other safety measures are taken which may be necessary for the safe execution of any particular diving operation and that the safety measures are strictly adhered to;
 - (k) that a record of every diving operation performed is kept, indicating the names of the divers, diving times, bottom times, depths, decompression schedules, breathing mixtures, diving equipment used and any decompression sickness or other incident relevant to the safety and health of the divers that occurred during the diving operation.

222 Compression chamber and bell

(1) The mine manager shall not permit any compression chamber or bell to be used, unless the person using it is in possession of a certificate issued by the manufacturer or supplier certifying that the compression chamber or bell has been designed, constructed and tested in any respect and considered fit for use as a compression chamber or bell, as the case may be.

(2) The mine manager shall, in consultation with the manufacturer or supplier of the compression chamber or bell, formulate a scheme for the systematic inspection and testing of the compression chamber or bell so as to ensure proper maintenance thereof.

(3) Before executing any repairs to a compression chamber or bell, the mine manager shall consult the manufacturer or supplier and carry out the repairs only under the supervision of the manufacturers or suppliers representative. The mine manager shall not use the repaired compression chamber or bell unless he or she is in possession of a certificate issued by the manufacturer or supplier certifying that after executing the repairs the compression chamber or bell has been tested in any respect and considered fit for use as compression chamber or bell, as the case may be.

223 Equipment and machinery

The mine manager shall ensure -

- (a) that all diving equipment and machinery which is used in connection with any diving operation or underwater work is maintained in good working order and is properly used;
- (b) that all equipment and machinery necessary for divers to safely enter and leave the water is available during diving operations; and
- (c) that a compression chamber with all necessary ancillary equipment is available for immediate use whenever diving takes place -
 - (i) at a depth exceeding 50 metres;
 - (ii) at a depth exceeding 10 metres but not exceeding 50 metres where the routine decompression time exceeds 20 minutes;
 - (iii) at a depth exceeding 10 metres but not exceeding 50 metres where the routine decompression time is twenty minutes or less and effective arrangements have not been made for a diver requiring therapeutic recompression to be brought to a suitable chamber within two hours from the time when the need for recompression is identified.

224 Diving at depths exceeding 100 metres

(1) When diving operations are proposed to be conducted at depths exceeding 100 metres, the mine manager shall furnish to the chief inspector -

- (a) the qualifications and experience of the divers and members of the diving team;
- (b) particulars of the equipment and machinery, proposed to be deployed for the diving operations.

(2) The diving operations shall be undertaken only under such conditions as the chief inspector may specify.

225 Mining by means of pressurized vessels

When mining operations are proposed to be conducted by means of pressurized vessels, the mine manager shall furnish to the chief inspector -

- (a) the qualifications and experience of the operators and members of the mining team; and
- (b) particulars of the equipment and machinery, proposed to be deployed for the mining operations.

PART XXI APPEALS (regs 226-229)

226 Appeals against decisions or orders of chief inspector

(1) Any person aggrieved by any decision taken or order issued by the chief inspector under a provision of these Regulations may appeal against any such decision or order to the Mining Board and the Mining Board shall, after it has considered in accordance with the provisions of regulation 226 the grounds of the appeal and the chief inspectors reasons for the decision or order, confirm,

set aside or vary the decision or order or substitute for such decision or order any other decision or order which the chief inspector in the opinion of the Mining Board ought to have taken or issued.

(2) Any person who wishes to appeal in terms of subsection (1), shall within 15 days after the decision or order was made known, lodge such an appeal with the Mining Board in writing, setting out the grounds on which it is made or issued.

(3) An appeal under subregulation (1) in connection with any order issued under regulation 20 shall not suspend the operation of such order.

227 Procedure to be followed by Mining Board

(1) The Mining Board shall commence hearing of an appeal lodged in terms of regulation 221 on a date, time and place fixed by the chairperson of the Mining Board and notified to the appellant and the chief inspector.

(2) The chief inspector shall submit to the chairperson and the appellant a statement of the reasons for the decision or order against which the appeal has been submitted and inform the chairperson as to the witnesses and evidence likely to assist the Mining Board in deciding the appeal.

(3) The hearing of the appeal shall consist of the hearing of oral testimony given on oath or under affirmation, inspections of relevant objects or places, documentary evidence or any other form of evidence admissible in a court of law, and arguments by the chief inspector and by the appellant or his or her representative on all evidence on record.

(4) The Mining Board shall first hear the evidence tendered by the chief inspector and shall afford the appellant or his or her representative an opportunity to cross-examine him or her, whereupon the evidence of the appellant shall be heard whereupon he or she may be cross-examined by each member of the Mining Board.

(5) The Mining Board may call other witnesses who may be cross-examined by the appellant or his or her representative.

(6) The chief inspector may, through the chairperson, question any witness on any matter relevant to the subject of the appeal.

(7) Any evidence gained at inspections shall be recorded within hearing of the inspector and the appellant.

(8) Any evidence shall be recorded and transcriptions thereof shall be made available to the interested parties.

(9) At the conclusion of the evidence the chief inspector shall first address the Mining Board on the evidence, and thereafter the appellant or his or her legal representative shall address the Mining Board.

(10) Any witnesses, except the appellant and the chief inspector shall be excluded from the hearing until called to testify.

228 Decision of Mining Board

(1) The chairperson shall convey the decision of the Mining Board to the appellant.

(2) The decision of the Mining Board shall be final.

229 Appellant to pay cost in certain cases

In case the decision of the Mining Board be given against the appellant in any respect, he or she may be ordered to pay the entire cost of the Mining Board or such proportion thereof as the Mining Board may determine, as well as any fees payable to any witnesses who may have been summoned to appear before the Mining Board.

PART XXII MISCELLANEOUS (regs 230-237)

230 Exemptions

The Minister may, for such period and on such conditions as may be determined by him or her, exempt on such conditions, if any, as may be determined by him or her, any mine or group or class of mines or any part of a mine or any category of persons by notice in the *Gazette* or, in the case of a particular mine or person, by notice in writing to such mine or person, from any one or more of the provisions of these Regulations.

231 General safety

No person shall negligently or wilfully do anything likely to endanger life or limb in the mine, or negligently or wilfully omit to do anything necessary for the safety of persons employed or otherwise present in the mine.

232 Offences and penalties

- (1) Any person who -
 - (a) contravenes or fails to comply with any provision of these Regulations or any guideline issued thereunder;
 - (b) contravenes or fails to comply with any notice, condition or scheme given, laid down or formulated under these Regulations or any guideline issued thereunder;
 - (c) in any return, notice or other document referred to in these Regulations or any guideline issued thereunder wilfully furnishes information or makes a statement which is false in any material respect;

shall be guilty of an offence and on conviction be liable to a fine not exceeding N\$100 000 or to imprisonment for a period not exceeding one year or to both such fine and such imprisonment.

(2) Whenever a person is convicted of an offence consisting of a failure to comply with a provision of these Regulations or of any direction or notice issued thereunder, the court convicting him or her may, in addition to any punishment imposed on him in respect of that offence, issue an order requiring him to comply with the said provision within a period determined by the court.

(3) In any legal proceedings in terms of these Regulations, any statement or entry contained in any book, register or document kept by any owner of a mine, mine manager, contractor or subcontractor or by any person employed by such owner, mine manager, contractor or subcontractor or his or her accredited agent, or found in or at the mine, and any copy or reproduction of any such statement or entry, shall be admissible in evidence against him or her as an admission of the facts set forth in that statement or entry, unless it is proved that that statement or entry was not made by such owner, mine manager, contractor, subcontractor, person or accredited agent or user within the scope of his or her authority.

(4) Whenever in any legal proceedings in terms of these Regulations it is proved that any untrue statement or entry is contained in any record kept by any person, he or she shall be presumed, until the contrary is proved, wilfully to have falsified that record.

233 Service of documents

(1) Save as is otherwise provided in these Regulations, any notice, order or any other document which is required in terms of these Regulations to be delivered or given to any person, shall be deemed to have been duly delivered or given if it is delivered to any such person personally or sent by registered post to his or her last known address or published in the *Gazette*.

(2) Any notice, order or any other document issued in good faith in terms of this Act, shall be valid according to the terms thereof, notwithstanding any want of form or lack of power on the part of any person to issue or authenticate it, provided such power is subsequently conferred upon such person.

234 Implementation of mine managers schemes

(1) Any scheme formulated by a mine manager in terms of any paragraph of these Regulations shall be -

- (a) examined and with or without modifications, as may be agreed upon, adopted by the safety committee for the mine;
- (b) explained to any person required to implement the provisions of the scheme; and
- (c) prominently displayed on the mine notice board.

(2) It shall be the duty of any person employed or otherwise present in or at the mine to comply with the provisions of the mine managers scheme as displayed on the mine notice board.

(3)(a) The chief inspector may at any time request in writing any or all mine managers to submit any scheme required to be formulated in terms of these Regulations to him or her for inspection, and any such mine manager or mine managers shall forthwith comply with such request.

(b) If the chief inspector is of the opinion that a scheme formulated by a mine manager in terms of these Regulations is deficient in any respect, he or she may require the

mine manager to make such modifications to the scheme as he or she may specify.

- (c) The modifications made to the scheme under paragraph (b) shall be explained to any person required to comply with the modified provisions and the scheme as amended shall thereafter be displayed on the mine notice board.

235 Maintenance and production of registers and records

All reports, registers and other records required to be kept under the regulations unless otherwise provided for, shall -

- (a) be kept at the office of the mine or at such other place as the inspector may permit;
- (b) be legibly entered in ink in English;
- (c) be preserved in original for a period of not less than 12 months after the date of last entry or report; and
- (d) be produced on demand before the inspector.

236 Repeal and saving

(1) The provisions of Parts II, III, IV, V and VI of the regulations made under Section 95 of the Mines, Works and Minerals Ordinance 1968 (Ordinance 20 of 1968) of South West Africa, by Government Notice 143 of 1968 in *Official Gazette* 2927 of 1 October 1968, and all amendments thereof, are hereby repealed.

(2) Anything done or orders issued under any of the provisions repealed by subregulation (1) shall, in so far as they are not inconsistent with these Regulations, be deemed to have been done or issued under the corresponding provisions of these Regulations.

237 Short title and commencement

These Regulations shall be called the Mine Safety Regulations, 1997, and shall come into operation on a date to be fixed by the Minister by notice in the *Gazette*.

PRO-FORMA ENVIRONMENTAL CONTRACT

REPUBLIC OF NAMIBIA

Whereas the applicant Company referred to below, has been notified under section 48(4) of the Minerals (Prospecting and Mining) Act, 1992 that the Minister of Mines and Energy is prepared to grant the applicant a _____ subject to certain terms and conditions; and

Whereas such terms and conditions include the condition precedent that the applicant enters into an Environmental Contract with the Government of Namibia;

IT is hereby agreed as follows:

1 PARTIES

The parties to this contract are: -----
(hereinafter referred to as the "Company") being the holder of Non-Exclusive Prospecting License/ Exclusive Prospecting Licence/ Reconnaissance License/ Mining Claim/ Pegging Claim (delete those not applicable)
no -----

on the one hand, and	THE GOVERNMENT OF NAMIBIA (hereinafter referred to as "the Government")
----------------------	--

duly represented by:	THE MINISTRY OF ENVIRONMENT & TOURISM (MET)
----------------------	---

and THE MINISTRY OF FISHERIES & MARINE RESOURCES

and THE MINISTRY OF MINES & ENERGY (MME)

on the other.

2 GENERAL OBLIGATIONS

- 2.1 The provisions contained in this contract are in addition to and do not detract from any obligations which the Company may have under the Minerals (Prospecting and Mining) Act, 1992 (the Act).
- 2.2 The Company recognises that its prospecting operations may have significant impacts on the environment. Accordingly the Company undertakes that during the course of its operations it will take every practicable step necessary to ensure the mitigation of such impacts. In doing so it will liaise with the MET, MFMR and MME as provided for in 3.3 and 4 below.
- 2.3 In particular the Company will undertake necessary and adequate steps to ensure that environmental damage is reduced to a minimum and prevented insofar as is practicable.
- 2.4 Should the Company not carry out its environmental obligations it shall be liable for the environmental damage which may result. In this regard the Government reserves the right to:
 - 2.4.1 demand at any time financial or other guarantees to restore the environment or mitigate environmental damage which has, or which may occur, as a result of the Company's activities;
 - 2.4.2 itself undertake such mitigatory or restorative measures and to recover the costs thereof from the Company;
 - 2.4.3 claim compensation for environmental damage which may have been brought about by the Company's activities.
- 2.5 The Company shall on completion or suspension of its operations, ensure that the impact on the environment is minimised and that every reasonable and practicable step is undertaken to ensure that the environment is left in a reasonable state. The provisions of clause 2.4 apply *mutatis mutandis* to environmental damage evident after prospecting, mining or other operations have been suspended or completed.
- 2.6 The Company acknowledges that should it apply for a mining licence in consequence of its prospecting or other operations, it will have to comply with Namibia's National Environmental Assessment Policy (Directorate of Environmental Affairs, Jan, 1995) and that this will entail the carrying out of an Environmental Assessment (EA).

3 THE ENVIRONMENTAL QUESTIONNAIRE

- 3.1 In accordance with section sec 68(f) of the Act, which provides that an application for a licence shall contain particulars of the existing condition of the environment, an estimate of the effect which the proposed operations may have, and the proposed steps to be taken to prevent or minimise such effect, the Company has completed the attached Environmental Management Programme Report.
- 3.2 The Company acknowledges that once the MET has determined that the information furnished in the Environmental Management Programme Report is satisfactory, it will form part of this contract.
- 3.3 The Company warrants that the information contained in the Environmental Management Programme Report is to the best of its knowledge and belief true and correct and that it will notify the Government of any material changes therein. Should there be such material changes, the Government reserves the right to re-negotiate the terms and conditions of this agreement.

4 COMPLIANCE AND NOTIFICATION

- 4.1 The Company acknowledges that the reports which it is obliged to furnish to the MME (the office of the Mining Commissioner provided for in the sec 48(4) notice will include a bi-annual Environmental Report on the prescribed form available from the MET.
- 4.2 The Company acknowledges that officials from the MME, MFMR and/or the MET may at any time conduct a compliance and/or performance inspection of its operations.
- 4.3 The Company will keep records of its environmental performance and make these available to the officials referred to in 4.2.

SIGNED AT _____ on this..... day of 200

For the Company: -----
(duly authorised thereto)

Government of Namibia:

Directorate of Environmental Affairs Ministry of Environmental & Tourism (on behalf of the Permanent Secretary)	Ministry of Fisheries & Marine Resources (on behalf of the Permanent Secretary)
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_____ Date	_____ Date
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Ministry of Mines & Energy (on behalf of the Permanent Secretary)
_____ Date

APPENDIX A(1)
ENVIRONMENTAL QUESTIONNAIRE FOR MINING CLAIMS IN NAMIBIA

REPUBLIC OF NAMIBIA

1 Background information

- 1.1 Companies (or individuals) applying for **MINING CLAIMS** must complete this questionnaire. (Please fill in ALL questions).
- 1.2 The answers provided in this questionnaire shall be regarded as commitments which will become part of the **Environmental Contract** between the Holder and the Government of the Republic of Namibia, duly represented by the Ministry of Environment and Tourism (MET) and the Ministry of Mines and Energy (MME).
- 1.3 Once the Holder has completed this questionnaire the MET and MME will either accept / reject / request further information regarding the environmental commitments made therein. The MET and MME reserve the right to add further conditions.
- 1.4 Once agreed to by all parties concerned, the completed questionnaire shall form part of the **Environmental Contract**.

1.5 Please attach a map of the claim area and a copy of application to register claims. 2 Holder details

2.1 Name of Holder	
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2.2 Name of Claim Holder (if different from 2.1)	
2.3 Telephone, Fax, Cell phone and/or E-mail	Tel: _____ Fax: _____ E-mail: _____ Cell phone: _____
2.4 Postal Address Residential/ Registered Address	
2.5 Reference Number	NEPL no: _____ Expiry: _____
2.6 Registered No.(s)	
2.7 Location, district and Region of claim	
2.8 Minerals to be mined	

2 8 How many people will work on your claim, and where will they live?

Number of people	Where will the people live

3 Environmental commitments

3.1 Pollution and Waste

3.1.1 What will you do with normal litter (e.g. Kitchen spoils, cans, bottles, paper, etc.)?

3.1.2 What industrial waste will be generated and what will you do with it (e.g. old machinery, vehicles, building rubble, batteries, paint, thinners, vehicle oil, etc.)?

3 1.3 Describe what type of toilet facilities will be provided.

3.2 Vehicles, earthmoving equipment, drilling and blasting:

3.2.1 List the type and quantity of vehicles, earthmoving equipment, drilling equipment, and other machinery likely to be used on your claim (e.g. 2 x bakkie; 1 x bulldozer, etc.).

Vehicles:

Earthmoving equipment:

Drilling equipment:

Other equipment or machinery:

3.3.2 Where will you get your water (e.g. river, own borehole, water affairs connection, etc)?

3.3.3 Explain how you will minimise or completely avoid polluting any water source, including underground water.

3.4 Relations with neighbouring communities and/or the general public

3.4.1 Are there any people living in or near your claim? Yes No Unsure

3.4.2 If "yes", explain where these people live and describe their economic activities.

3.4.3 If "yes" in (3.4.1) explain what you will do to maintain a good relationship with such people.

3.4.4 Will the activities on your claim restrict the movement of other people in the area (e.g. the general public, tourists, farmers, local people, etc.)?

--

3.6.2 If "yes" above, please describe these briefly.

3.6.3 If such sites are known, how will you avoid damaging them?

3.6.4 If such sites are discovered after you have started working your claim, would you accept new conditions to this contract so that they can be properly protected?

Yes No Unsure

3.7 Rehabilitation

3.7.1 When will you rehabilitate the environmental damage done during prospecting?
(tick appropriate box)

- I have no intention of rehabilitating any damage
- On a continuous basis (i.e. simultaneous with prospecting)
- Only after all prospecting has finally been completed
- Don't know

3.7.2 Describe the programme of mining from start and the methods to rehabilitate damage:

1 Background information

- 1.1 Companies (or individuals) applying for a **EXCLUSIVE PROSPECTING LICENCE (EPL)** must complete this questionnaire.
- 1.2 The answers provided in this questionnaire shall be regarded as commitments which will become part of the **Environmental Contract** between the prospector and the Government of the Republic of Namibia, duly represented by the Ministry of Environment and Tourism (MET) and the Ministry of Mines and Energy (MME).
- 1.3 Once the prospector has completed this questionnaire the MET and MME will either accept / reject / request further information regarding the environmental commitments made therein. The MET and MME reserve the right to add further conditions.
- 1.4 Once agreed to by all parties concerned, the completed questionnaire shall form part of the **Environmental Contract**.
- 1.5 Please attach a map of the prospecting area and a copy of the EPL application.**

2 Holder details

2.1 Name of Holder	
2.2 Name of Chief Executive Officer (if a company)	
2.3 Telephone, Fax, E-mail and/or Cell phone	Tel: Fax: E-mail: Cell phone:
2.4 Postal Address Residential/ Registered address	
2.5 Reference Number of the licence	EPL no: Expiry:
2.6 Locality of prospecting area, district and Region	
2.7 Minerals to be explored	

2.6 Please explain the proposed prospecting activities according to the different phases

2	
3	

3.1.3 If "yes" for (3. 1. 1), explain how you will store and dispose of such substances?

Storage of substance	Disposal of substance
1	
2	
3	

3.1.4 What will you do with normal litter (e.g. Kitchen spoils, cans, bottles, paper, etc.)?

3.1.5 What industrial waste will be generated and how this will be disposed of (e.g. old machinery, vehicles, building rubble, batteries, paint, thinners, vehicle oil, etc.)?

3.1.6 Describe what type of toilet facilities will be provided.

3.2 Vehicles, earthmoving equipment, drilling and blasting:

3.2.1 List the type and quantity of vehicles, earthmoving equipment, drilling equipment, and other machinery likely to be used during the prospecting phase.

Vehicles:

Earthmoving equipment:

Drilling equipment:

Other equipment or machinery:

3.2.2 Describe the environmental damage that is likely to result from the use of vehicles and machinery within the prospecting area. (e.g. on the landscape in general, soil, vegetation, noise, dust, etc.).

3.2.3 How will you control the movement of vehicles and machinery in order to minimise Environmental damage?

3.3.2	Where will you get your water (e.g. river, own borehole, water affairs connection, etc)?
3.3.3	Explain how you will minimise or completely avoid polluting any water source, including underground water.
<p><u>3.4 Relations with neighbouring communities and/or the general public</u></p>	

3.4.1	Are there any people living in or near your prospecting area?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Unsure <input type="checkbox"/>
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3.4.2	If "yes", explain where these people live and describe their economic activities.
3.4.3	If "yes" in (3.4.1) explain what you will do to maintain a good relationship with such people.

3.4.4	Will your prospecting activities restrict the movement of other people in the area (e.g. the general public, tourists, farmers, local people, etc.)?
-------	--

Yes

No

Unsure

3.4.5 If "yes" for 3.4.4. please explain why their movements or access will be restricted.

3.5 Protection of plants and wildlife

3.5.1 How will you ensure that your prospecting operation and the activities of your staff/sub-contractors, will not cause unnecessary damage to plants and wildlife in or near your prospecting area (e.g. hunting, plant collecting, fishing, etc.)?

3.6 Historical, archaeological and cultural heritage (e.g. Rock art, graves, monuments, fossils, sacred sites, historical buildings, etc.)

3.6.1 Are there any historical, archaeological or culturally important sites within your prospecting area (tick one box)?

Yes No Unsure

3.6.2 If "yes" above, please describe these briefly.

3.6.3 If such sites are known, how will you avoid damaging them?

--

3.6.4 If such sites are discovered after you have begun your prospecting operation, would you accept new conditions to this contract so that they can be properly protected?

Yes No Unsure

3.7 Rehabilitation

3.7.1 When will you rehabilitate the environmental damage done during prospecting? (tick appropriate box)

I have no intention of rehabilitating any damage

On a continuous basis (i.e. simultaneous with prospecting)

Only after all prospecting has finally been completed

Don't know

3.7.2 Describe how you will rehabilitate damage caused by prospecting:

4. Existing damage

Describe what environmental damage exists in your site/prospecting area now, in other words, damage

caused by someone else before you began prospecting in the area. (Where possible, provide evidence such as photo's, statements, etc.)

I hereby declare that the information provided in this questionnaire is, to the best of my knowledge, accurate and correct, and that this company is prepared to keep to the commitments stated therein.

.....
Holder or Authorised Representative

.....
Place

.....
Date

APPENDIX A(3)

ENVIRONMENTAL MANAGEMENT PLAN FOR PROSPECTING IN NAMIBIA



REPUBLIC OF NAMIBIA

1 Background information

- 1.1 Companies (or individuals) applying for an **EXCLUSIVE PROSPECTING LICENCE (EPL)** must complete this Environmental Management Plan (EMP).
- 1.2 The answers provided in this EMP shall be regarded as commitments which will become part of the **Environmental Contract** between the prospector and the Government of the Republic of Namibia, duly represented by the Ministry of Environment and Tourism (MET) and the Ministry of Mines and Energy (MME).
- 1.3 Once the prospector has completed this EMP the MET and MME will either accept / reject / request further information regarding the environmental commitments made therein. The MET and MME reserve the right to add further conditions.
- 1.4 Once agreed to by all parties concerned, the completed questionnaire shall form part of the **Environmental Contract**.
- 1.5 **Please attach a map of the prospecting area and a copy of the EPL application.**

2 Holder details

2.1 Name of Holder	
2.2 Name of Chief Executive Officer (if a company)	

2.3 Telephone, Fax, Cell phone and/or E-mail	Tel: Fax: Cell phone: E-mail:
2.4 Postal Address Residential/Registered address	
2.5 Reference Number of the licence	EPL no: Expiry:
2.6 Locality of prospecting area	Region: District: <u>Corner Point</u> <u>Latitude</u> <u>Longitude</u> 1 2 3 4 5 Area: ha/ km2
2.7 Minerals to be explored	

3 Employment

Different categories and number of persons to be employed	The work they will do	Will the persons live on site (yes/no)	If non-resident, how often will they visit

4 Prospecting Activities

4.1 Detailed description of the prospecting programme

4.2 List the type and quantity of vehicles, earthmoving equipment, drilling equipment and other machinery likely to be used during the prospecting phase:

Vehicles:

Earthmoving equipment:

Drilling equipment:

Other equipment:

4.3 List and describe all infrastructure that will be erected on the site

Processing Plant:

Housing:

Water storage:

Ablution blocks/toilets:

Other:

5 Water

Activity or category of use	Quantity of water needed per month (litres)	Source for water extraction (e.g. river, own borehole, water affairs connection, etc...)

6 Existing Damage

Describe what environmental damage exists in your site/prospecting area now, in other words, damage caused by someone else before you began prospecting in the area (provide evidence such as photo's, statements, etc.)

ENVIRONMENTAL MANAGEMENT PLAN

Non-exhaustive list of possible significant environmental impacts requiring mitigation

Significant environmental impacts requiring mitigation	Sources of impacts	Mitigation measures	Monitoring Actions and methods	Responsibilities for implementation	Resources required for the implementation
<u>1. Pollution</u>					
Accidental/ Negligent Spillages	Vehicles, earthmoving equipment	<ul style="list-style-type: none"> Spillages of any potentially toxic materials, whether by accident or through negligence, should be reported immediatly 			
Workshop and Plant Area	Generators, vehicles, earthmoving equipment	<ul style="list-style-type: none"> Oil traps will be installed in all appropriate places to collect potentially toxic materials All diesel generators on site will be placed on concrete slabs The entire 			

<p><u>2. Waste</u></p> <p>Domestic waste</p>		<p>work area of the workshop must be lined by concrete</p> <ul style="list-style-type: none"> Any runoff from the workshop/plant area, either arising from washdowns or rainfall, should be channeled into the pollution control pond 			
--	--	--	--	--	--

Significant environmental impacts requiring mitigation	Sources of impacts	Mitigation measures	Monitoring Actions and methods	Responsibilities for implementation	Resources required for the implementation
<p>Industrial waste</p> <p>Toilet facilities</p> <p><u>3. Stripping and Stockpiling Soils</u></p> <p><u>4. Tracks and Roads</u></p> <p>Fixed routes</p> <p>Road Safety</p> <p>Haul Road Utilisation</p>					

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Significant environmental impacts requiring mitigation	Sources of impacts	Mitigation measures	Monitoring Actions and methods	Responsibilities for implementation	Resources required for the implementation
<u>5. Water Abstraction and Supply</u>					
Abstraction point and Pipeline					
Water storage on site					
Water conservation strategies					
Ground water seepage					
<u>6. Vegetation</u>					
Preservation of communities					
Sources of plant material for rehabilitation					

Significant environmental impacts requiring mitigation	Sources of impacts	Mitigation measures	Monitoring Actions and methods	Responsibilities for implementation	Resources required for the implementation
<u>7. Fauna</u>					
<u>8. Noise</u>					
<u>9. Dust</u>					

10. Visual Impacts					
11. Neighboring communities and or the general public					

Significant environmental impacts requiring mitigation	Sources of impacts	Mitigation measures	Monitoring Actions and methods	Responsibilities for implementation	Resources required for the implementation
<p>12. Historical, archaeological and cultural heritage</p> <p>13. Rehabilitation Mining Void</p> <p>All waste and unwanted materials</p> <p>All structures</p> <p>All roads</p>					

CODE OF CONDUCT FOR THE WORKFORCE	
Signature _____	Date _____

INSTRUCTIONS:

1 An Environmental Report shall be submitted to the Ministry of Environment and Tourism (MET) by the following dates each year-

June December 2001.

2 This form shall be the minimum reporting format. Prospecting Companies are expected to attach a map of their prospecting area to this report. Prospecting Companies are welcome to attach any other information they like, such as copies of new agreements, letters of explanation, aerial photographs, or anything else of interest.

3 The map shall be used to indicate the following:

- * areas where prospecting has taken place,
- * roads or tracks made and/or used,
- * houses and other infrastructure erected,
- * excavations or other scars which have been rehabilitated,
- * conflict areas, etc....

4 It is recommended (but not compulsory) that Prospecting Companies attach photographs to their report which visually illustrate the activities described in their report.

5 Failure to submit an Environmental Report shall constitute a breach of the Environmental Contract, which could result in steps taken against the Prospecting Company.

6 All information contained in the Environmental Report shall be treated as confidential.

7 The Prospecting Company shall ensure that all the information recorded in the Environmental Report is, to their best knowledge, accurate and correct.

Completed Environmental Reports should be sent to:

**The Permanent Secretary
Ministry of Environment and Tourism
Private Bag 13306
Windhoek**

For Attention: Ms. C. Claassen

A COMPANY DETAILS AND REPORTING PERIOD:

Name of Company:

Address of Company:

Telephone:

Fax number:

E-mail:

_____ at irregular intervals

If refuse has not been removed, where has it been dumped?

As far as litter is concerned, would you describe Very clean Reasonably clean Filthy your prospecting area as:

If your prospecting area is littered with refuse, please indicate how you intend cleaning it up:
.....

Are toilets provided for all staff employed by the prospecting company: yes no

If "yes" above are they: Flush toilets Chemical Toilets Pit Latrines Other

If chemical toilets are used, how are old chemicals disposed of:
Deposited in evaporation ponds Deposited in a municipal refuse dump
Buried on site Other (specify)

C VEHICLES AND EARTHMOVING EQUIPMENT

Indicate the types and number of vehicles and earthmoving equipment used on site during the reporting period (tick box in front of the category of vehicles used and then fill in the next boxes to indicate numbers)
 Pick-up trucks ("bakkies"), either 2x4 or 4x4 How many in use
 Lorries / trucks between 5 - 10 ton capacity How many in use

<input type="checkbox"/> Lorries / trucks larger than 10 ton capacity	How many in use	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> Bulldozer of any size	How many in use	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> Road Grader of any size	How many in use	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> Front-end loader of any size	How many in use	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> Drilling machine of any type	How many in use	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> Other (specify)	How many in use	<input type="checkbox"/> <input type="checkbox"/>

D ROADS AND TRACKS (In addition to ticking the following boxes, please draw roads/tracks made on an accompanying map in blue ink. Roads which have been rehabilitated (ie. restored to their natural state) can be scratched out in red pen.

Have new roads or tracks been made during the reporting period? yes no

If "yes" above how long are these (in kilometres)? Km

If "yes" above are these still in use? yes no

If "no" above have any of these roads or tracks been rehabilitated? yes no

If "yes" above how have you done such rehabilitation?: Ripping Raking sweeping
 Other (specify)

If road / track rehabilitation has taken place how, many kilometres of roads or tracks have been rehabilitated ? kilometres

E TRENCHES OR PITS: If new trenches or pits were made in the site / area during the reporting period, please

indicate these by ticking the appropriate boxes AND by means of illustrating them on the same map described above. New pits or trenches made, should be numbered and drawn as a CIRCLE in blue ink, while pits or trenches which were rehabilitated during the reporting period should be scratched out in RED ink.

Have new trenches or pits been excavated in your area during the reporting period? yes no

If "yes" above, what are their approximate sizes or dimensions? (in metres)

1 Trench / pit No.1: Size / dimensions: Cubic metres or.... length x breadth x depth

2 Trench / pit No.2: Size / dimensions: Cubic metres or.... length x breadth x depth

3 Trench / pit No.3: Size / dimensions: Cubic metres or.... length x breadth x depth

4 Trench / pit No.4: Size / dimensions: Cubic metres or.... length x breadth x depth

5

.....

6

.....

Were any holes/trenches rehabilitated during this period of reporting?
 yes (show on map) no

F INFRASTRUCTURAL DEVELOPMENT
Infrastructural Developments means any offices, houses, sheds, cement slabs, or other buildings or foundations for buildings. It also includes storage tanks (for water, fuel or other substances), temporary housing such as mobile homes & caravans, prefab units and tented camps. Please report on new construction or additions to buildings you reported on, in your previous Environmental Report.

Was any NEW infrastructure established during this period? yes No

If "yes" above, is this infrastructure: Permanent Temporary A combination

Describe infrastructure by ticking boxes: Offices Housing Sheds

Prefab structure Garages Storage tanks

Cement slabs Foundations Other

If "other", please specify:

G BOREHOLES, SAMPLE HOLES OR OTHER DRILLING

This category includes holes drilled for water, for taking mineral or other samples, for setting explosives, for testing mineral quality, or any other purpose.

Were any holes drilled during this period?	yes <input type="checkbox"/>	no <input type="checkbox"/>
If "yes", for which purpose were they drilled?	Water <input type="checkbox"/>	depth <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Quantity <input type="checkbox"/> <input type="checkbox"/>
	Sampling <input type="checkbox"/>	depth <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Quantity <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Explosives <input type="checkbox"/>		depth <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Quantity <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Other <input type="checkbox"/> (specify)		depth <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Quantity <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

H WATER

Your estimated monthly water consumption during this period was: cubic metres

Water was obtained from: River Borehole Dam Water Affairs Other

Please estimate the percentage of water used for the following activities during this period:

Human consumption	<input type="checkbox"/> <input type="checkbox"/>	%
Toilets	<input type="checkbox"/> <input type="checkbox"/>	%
Prospecting activities	<input type="checkbox"/> <input type="checkbox"/>	%
Washing vehicles & equipment	<input type="checkbox"/> <input type="checkbox"/>	%
	<input type="checkbox"/> <input type="checkbox"/>	
Dust control		%

Were there any accidents which caused a loss of water? yes no

If "yes", please give details:

Building activities	<input type="checkbox"/> <input type="checkbox"/>	%	
Gardens	<input type="checkbox"/> <input type="checkbox"/>	%	
Recreation	<input type="checkbox"/> <input type="checkbox"/>	%	
Other (specify)	<input type="checkbox"/> <input type="checkbox"/>	%	

I PROTECTION OF FAUNA AND FLORA

Please answer the following questions by ticking the appropriate boxes:

Question:	Yes	No	Unsure
Were any mammals, birds, reptiles or fish killed or wounded (purposefully or accidentally) in the prospecting site or area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were any plants (excluding grasses) picked, damaged or removed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was there any wood collecting in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

J RELATIONS WITH NEIGHBOURS, OFFICIALS AND/OR THE GENERAL PUBLIC

Were there any conflicts with neighbours, land-owners, Government Officials or the public during this period? Yes No

If "yes" above, what was the nature of these conflicts? (tick boxes to provide answers)

People entered the prospecting area without permission or prior arrangement	<input type="checkbox"/>
Complaints about reduced access to water or other resources	<input type="checkbox"/>
Complaints about danger posed to livestock or wildlife	<input type="checkbox"/>

Allegations about stock-theft or poaching	<input type="checkbox"/>
Complaints about vehicle or equipment movement on access roads / tracks	<input type="checkbox"/>
Complaints about litter or other types of pollution (eg. Noise, dust, etc.)	<input type="checkbox"/>
Complaints about the activities / actions of company staff	<input type="checkbox"/>
Allegations that the Company was not adhering to contracts / agreements	<input type="checkbox"/>
Allegations that the Company damaged property or installations	<input type="checkbox"/>
Allegations that gates were left open or unlocked	<input type="checkbox"/>
Other (specify)	<input type="checkbox"/>

If conflicts arose, indicate how these were resolved? (tick boxes)	
Verbal agreement after discussions.....	<input type="checkbox"/>
Written agreement by special contract.....	<input type="checkbox"/>
Instructions to company staff to avoid conflicts.....	<input type="checkbox"/>
Company rectified its mistakes and undertook to avoid future wrong-doing.....	<input type="checkbox"/>
Court action or other third party arbitration.....	<input type="checkbox"/>
Other (specify)	<input type="checkbox"/>
The conflicts remain unsolved.....	<input type="checkbox"/>

Any other comments or information:

