Tanzania

Mining Act

Mining (Safe Working and Occupational Health) Regulations, 1999

Government Notice 219 of 1999

Legislation as at 31 July 2002

There may have been updates since this file was created.

PDF created on 16 September 2024 at 10:20.

Collection last checked for updates: 31 July 2002.

View online

About this collection

The legislation in this collection has been reproduced as it was originally printed in the Government Gazette, with improved formatting and with minor typographical errors corrected. All amendments have been applied directly to the text and annotated. A scan of the original gazette of each piece of legislation (including amendments) is available for reference.

This is a free download from the TanzLII website and is presented in collaboration with the Laws.Africa Legislation Collection, a collection of African legislation that is digitised by Laws.Africa and made available for free.

www.tanzlii.org | info@tanzlii.org

www.laws.africa | info@laws.africa

FRBR URI: /akn/tz/act/gn/1999/219/eng@2002-07-31

Mining (Safe Working and Occupational Health) Regulations, 1999 (Government Notice 219 of 1999)
Contents

Part I – Preliminary provisions (regs 1-3) 1
1. Citation 1
2. Application 1
3. Interpretation 1
Part II – Management and responsibility in mines (regs 4-18) 3
4. Manager to be appointed for every mine 3
5. Appointment of the Manager 3
6. Certificate of appointment of Manager and register of Managers 3
7. Person deemed to be Manager where no Manager appointed 4
8. Appointment of competent persons 4
9. Appointment of miner in charge 4
10. Responsibilities of Manager 5
11. Making of special rules by Managers 6
12. Owner to provide Manager with facilities 6
13. Responsibility for contravention of regulations 6
14. Deputing of work and supervision 7
15. Posting up and supply of copies of regulations 7
16. Regulations to be explained to illiterate employees 7
17. Appointment of acting Manager during Manager's absence 7
18. Obedience to orders 7
Part III – General safety procedures (regs 19-48) 8
19. Safety precautions to be observed by all persons 8
20. Anything dangerous to be reported 8
21. Intoxicated persons not to enter mine 8
22. Register of employees to be kept by Manager 8
23. Limiting of working hours 9
24. Commissioner may grant exemptions 9
25. Minister may grant exemption 9
26. Withdrawal or alteration of exemptions, permit, etc. 9
27. Lunch rooms, change houses and sanitary conveniences 9
28. Use of solder 10
29. Lunch rooms 10
30. The Manager to provide separate facilities 10
31. Change house requirements 10

33. Under-ground toilets 10
34. No deposition of faeces 11
35. Appointment of inspectors 11
36. Powers and duties of inspectors 11
37. Special powers of Inspectors 12
38. Evidence at inquest 13
39. Powers of Commissioner 13
40. Manager to provide facilities 13
41. Offences and penalties 13
42. Protection of surface 13
43. Impairment and general conduct 14
44. Working conditions 15
45. Procedures when working in confined spaces 15
46. Precautions when working in harmful atmosphere 16
47. Fire prevention 17
48. Work place conditions 17
Part IV – Emergency preparedness (regs 49-56) 17
49. Industrial first aid 17
50. Mine rescue 17
51. Emergency training 19
52. Surface fire fighting 19
53. Underground fire fighting 19
54. Underground coal fire fighting 20
55. Gas detectors 20
56. Evacuation 21
Part V – Machinery (regs 57-69) 21
57. Reporting prior to use of machinery 21
58. Engineer to be in charge 21
59. Plant and handling of machinery 21
60. Inspection 60 on machinery 22
61. Operating of locomotives 22
62. Handling of vehicles 22
63. Requirement of belt driven-machinery 23
64. Conveyor belt to have device 23
65. Oils to be kept in closed containers 23

66. Fencing of moving parties 23
67. Unauthorised entrance prohibited 23
68. Pressure vessels to be secured 24
69. Mercury retorts to be sealed 24
Part VI – Winding and tramming (regs 70-93) 24
70. Winding system requirements 24
71. Winding system to be approved by Inspector 24
72. Winding to be tested 25
73. Repair of the winding system 25
74. Winding system to be kept ready 25
75. Operation of the hoist 26
76. Passage to be kept clear 26
77. Overhead clearance 26
78. Power source 26
79. Winding rope requirements 26
80. Stop devices to be used 27
81. Open hook to be used 27
82. Chain requirements 27
83. Control of winding engines 27
84. Windlasses, whims and whimps 27
85. Drum brakes 28
86. Materials to be secured 28
87. Shaft sinking 28
88. Shaft requirements 28
89. Winding signals 29
90. Raising or lowering of persons 30
91. Exemption on manual winding 31
92. Rules for winding in shafts 31
93. Underground tramways 32
Part VII – Ventilation, gases and dust (regs 94-110) 32
94. Blowpipes 32
95. Wetting down 33
96. Machine drilling not to done dry 33
97. International water-feeds for machine drills 33
98. Waterblasts 34

99. Ventilation 34
100. No work in harmful air 34
101. Withdrawal of workmen where there is danger from gas 34
102. Action on exposure to harmful environment 35
103. Permissible quantities of gas and dust 35
104. Precautions against harmful dust 36
105. Internal combustion engines underground 36
106. External combustion engine not to be used underground 37
107. Delivery and storage of diesel 37
108. Requirements for underground filling station 38
109. Repair of diesel powered unit 38
110. Ventilation plans to be kept 38
Part VIII – Protection in working places (regs 111-134) 38
111. Entry in abandoned workings 38
112. Mine opening to be kept safe 39
113. Working place to be made safe before entry 39
114. Entry procedures during shaft sinking 40
115. Protection against falling objects 40
116. Systematic support to provided 40
117. Ore and waste passes to be secured 41
118. Bearer, decking and anchorage to be secured 41
119. Lifeline to be used 41
120. Conditions for sliping 41
121. Complaints to be investigated 42
122. Complaints to be recorded 42
123. Precautions during development of working 43
124. Manager to take precaution 43
125. Safety requirement when using belt conveyor 43
126. Combustible matter not to be piled 44
127. Requirements in surface working 44
128. Hard hat to be worn 45
129. Footwear to be worn 45
130. Lamps to be carried 45
131. Lighting to be provided 45
132. Lamp room to be provider 46

133. Care and maintenance of lamps 46
134. Pillars to be maintained 46
Part IX – Outlets, ladderways and travelling ways (regs 135-143) 47
135. Shaft design 47
136. Gate to be installed 47
137. Counter weight compartment 47
138. Ingress and egress 47
139. Resting place to be provided 48
140. Fixing of ladders 48
141. Compartment to be bratticed 48
142. Raising and lowering of persons 48
143. No carrying materials in ladder ways 48
Part X – Mine accidents, incidents and enquiries (regs 144-149) 48
144. Accidents or dangerous occurrences 48
145. Notification of accidents to persons 49
146. Notification of non-casualty accidents 50
147. Register of accidents 50
148. Inspector to investigate 50
149. Inspectors to be protected 50
Part XI – Electrical apparatus, wiring and lighting (regs 150-175) 50
150. Application of safety code 50
151. General provisions regarding electrical apparatus 50
152. Diagrams of general electrical arrangement on mine 51
153. Cutting off power at surface to apparatus underground 51
154. Cutting off electrical supply 51
155. Restriction on voltages 52
156. Testing of electrical apparatus 52
157. Maintenance and protection of electrical apparatus 52
158. Access to electrical apparatus 52
159. Prohibition of damage to electrical apparatus 52
160. Insulation 53
161. Earthing 53
162. Cables 54
163. Flexible cables 54
164. Switchgear and connections 54

165. Blasting cables 55
166. Transformers 55
167. Telephone and signalling system 55
168. Notices to be posted 55
169. Persons operating electrical apparatus 55
170. Permissible voltage 56
171. Overhead lines 56
172. Lines close to buildings 57
173. Protection of supports 57
174. Trolley line and electrically propelled vehicles 57
175. Battery and charging station requirements 58
Part XII – Dams, waste emplacement, pumps and pipelines (regs 176-184) 59
176. A major impoundment dam and waste dump 59
177. Tailings impoundments 59
178. Water controlling dams 59
179. Dumps 60
180. Pipelines design, manufacture and installation 60
181. Notice for installation 60
182. Pipeline to be tested 61
183. Progress reports to be submitted 61
184. Competent persons to examine pipelines 61
Part XIII – Exploration (regs 185-195) 62
185. Emergency facilities to be available at the exploration site 62
186. Electrical surveying system 62
187. Uranium exploration 63
188. Uranium samples to be tested 63
189. Inspector to be notified 64
190. Exploration samples outside the specified area 64
191. Aircraft operations procedures 64
192. Safety measures when operating aircraft 65
193. Helicopter landing pad 65
194. Acid generating strata 66
195. Removal of excavated material 66
Part XIV – Miscellaneous provisions (regs 196-203) 66
196. Mine plans to be kept up to date 66

197. Copies to be deposited with the Commissioner 67
198. Copies not to be availed to unauthorised person 67
199. Plans to be updated on closure 67
200. Voice levels 67
201. Manager to reduce noise levels 67
202. Notification and preparation of noise report 68
203. Mine closure 68
First Schedule (Regulation 145) 69
Second Schedule (Regulation 146) 69
Third Schedule (Regulation 187) 70
Fourth Schedule (Regulation 189) 71

Tanzania

Mining Act

Mining (Safe Working and Occupational Health) Regulations, 1999

Government Notice 219 of 1999

Published in Tanzania Government Gazette

Commenced on 2 July 1999

[This is the version of this document at 31 July 2002.]

[Note: This legislation has been thoroughly revised and consolidated under the supervision of the Attorney General's Office, in compliance with the Laws Revision Act No. 7 of 1994, the Revised Laws and Annual Revision Act (Chapter 356 (R.L.)), and the Interpretation of Laws and General Clauses Act No. 30 of 1972. This version is up-to-date as at 31st July 2002.]

Part I – Preliminary provisions (regs 1-3)

1. Citation

These Regulations may be cited as the Mining (Safe Working and Occupational Health) Regulations.

2. Application

Except where the contrary intention appears for the context or specific provision is made to the contrary, the provisions of these Regulations shall apply to all mines and quarries during exploration, evaluation, development, construction, production, closure, reclamation and abandonment.

3. Interpretation

In these Regulations, unless the context otherwise requires—

"**the Act**" means the Mining Act[1];

"**Chief Inspector**" means the Chief Inspector of Mines referred to under regulation 35 of these Regulations;

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

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

"**covered with insulating material**" means adequately covered with insulting material of such quality and thickness that there is no likelihood of leakage;

"**competent person**" in relation to any duty or function, means a person who has had adequate training and experience to enable him to perform that duty or discharge that function without avoidable danger to himself or any other person;

"**danger**" means danger to health, life or limb through shock burn or other injury to the person or from fire attendant upon the generation, transformation, distribution or use of electrical energy;

1

Cap. 123

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

"**earth leakage protection**" means protection based on the principle of sensing current flowing from the live parts of an installation to earth. The sensitivity and time response characteristics of the protection shall be consistent with the object of minimising danger;

"**electrical apparatus**" includes all electrical cables and conductors and any part of any machinery, apparatus or appliance in which conductors are used or of which they form a part;

"**exploration**" means the search for minerals by drilling, trenching, excavation, blasting, disturbance of the ground by mechanical means or prescribed geophysical equipment, including underground work;

"**extra-low-voltage**" means a voltage normally not exceeding thirty volts root-mean-square alternating current or one hundred volts direct current;

"**flexible cable**" means any cable which is designed to be movable while in use and has its conductors stranded to conform with accepted practice for such cable;

"**high voltage**" means a voltage normally exceeding six hundred and fifty volts.

"**Inspector**" means the Inspector of Mines referred to under regulation 35 of these Regulations;

"**live**" means electrically charged;

"**low voltage**" means a voltage normally exceeding extra-low voltage, but not exceeding two hundred and fifty volts;

"**medium voltage**" means a voltage normally exceeding two hundred and fifty volts, but not exceeding six hundred and fifty volts;

"**metallic covering**" in relation to any electrical cable or conductor, means any metallic covering, armouring, sheath or pipe through which any conductor passes;

"**mine manager**" means the person in charge of the whole mine including the processing plant;

"**portable apparatus**" means any electrically-operated apparatus which is designed to be held in the hands while being operated;

"**prescribed geophysical equipment**" means exposed electrodes used on induced polarisation surveys;

"**qualified electrician**" means a person who either holds a recognised certificate of competency as an electrician issued by a registered industrial council or has served a recognised apprenticeship;

"**serious personal injury**" means permanent partial incapacity of a person whose loss was total loss of earning capacity is not less than one hundred percent as specified in the Second Schedule of the Workers' Compensation Act[2], and such incapacity is a direct result of an accident;

"**substation**" means a building or designed area containing electrical apparatus for the control of an electrical power system or circuit;

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

"**transportable apparatus**" means any electrically-operated apparatus which is capable of being moved, whilst working from place under its own power or by means of any other mechanical power;

"**voltage**" means the difference of electrical potential between any two live conductors or, if there be only one live conductor, between that conductor and earth;

2

Cap. 263

Part II – Management and responsibility in mines (regs 4-18)

4. Manager to be appointed for every mine

(1) Every mine shall be under the management, control and direction of a Manager appointed under of this Part.

(2) No mining or allied operations shall be carried out at any mine for a period exceeding seven days unless a Manager has been appointed for that mine under this Part.

(3) Not more than one Manager shall be appointed in respect of any mine.

(4) Subject to subregulation (3) where, in his opinion, the extent of any mine warrants it or special circumstances exist, the Commissioner may authorise or require the appointment of more than one Manager.

(5) A Manager authorised or required to be appointed in terms of subregulation (4) shall be appointed for a particular portion of the mine and shall be responsible for the management, control and direction of such portion.

(6) Joint control of any mine or any portion of a mine shall not in any case be exercised by two or more Managers.

5. Appointment of the Manager

The Manager of a mine shall be appointed—

(a) in the case of a mine which is worked by the registered holder there of either personally or through a servant or agent, by such registered hold or his agent;

(b) in the case of a mine which is worked by or on behalf of a company, by the Board of Directors of such a Company;

(c) in any case not falling within subparagraph (a) or (b) by the person for whose benefit the mining operations are conducted;

(d) no person who is responsible for the appointment of a Manager under this section shall carry on mining or allied operations for a period exceeding seven days without appointing a Manager.

6. Certificate of appointment of Manager and register of Managers

(1) A certificate of appointment of Manager shall, within seven days of the appointment, be forwarded by the person making such appointment to an Inspector of the area in which the mine concerned is situated.

(2) The certificate forwarded in terms of subregulation (1) shall be endorsed by the appointee signifying his acceptance of the appointment.

(3) If the Commissioner after consultation with an Inspector is not satisfied, having regard to the nature of the mining operations being or to be conducted on a mine, that the person who has been appointed as the Manager of that mine under this part—

(a) is sufficiently able to read and write English or sufficiently conversant with the provisions of the Act, these Regulations and any law relating to explosives; or

(b) has sufficient knowledge, experience and ability to be the Manager of the mine, he may in writing notify the person who made the appointment accordingly and require him, within such period as the Commissioner may specify, to appoint some other person as Manager of the mine, and thereupon such first mentioned appointment shall become void and of no force or effect.

(4) Any person aggrieved by a decision of the Commissioner under subregulation (3) may appeal against that decision to the Minister, who may confirm, vary or set aside the decision.

(5) Whenever a person appointed to be the Manager of a mine under this Part ceases for any reason to be the Manager of that mine, the person responsible under regulation 5 for the appointment of his successor shall immediately give written notification, to an Inspector in which the mine is situated, of the fact that such first mentioned person has ceased to be the Manager of the mine.

7. Person deemed to be Manager where no Manager appointed

During any period where no Manager has been appointed for a mine, the person responsible for such appointment under of regulation 5 shall be deemed to be the Manager of the mine.

8. Appointment of competent persons

(1) Subject to subregulation (2)—

(a) the Manager of a mine may appoint in writing one or more competent person to assist him in the operation, control, management and direction of the mine, and every such person shall, to the extent clearly defined in his letter of appointment, have the same responsibility under these Regulations as the Manager;

(b) the Commissioner may require the appointment of one or more competent persons and subordinate Managers at any time when in his opinion, it is necessary:

Provided the appointment of person in terms of paragraphs (a) and (b) shall not be taken to relieve the Manager of any personal responsibility under these Regulations.

(2) In every case where the activities at a mine involve blasting operations, either on surface or underground, the Manager of the mine

(a) may, if he is the holder of a blasting certificate; or

(b) shall, if he is not the holder of a blasting certificate, appoint one or more competent persons to supervise such blasting operations:

Provided that all persons so appointed shall be holders of the appropriate class of blasting certificate as provided under the Explosives Act[3].

(3) Any appointment made under subregulations (1) and (2) shall be entered in ink in a register kept expressly for the purpose, which shall include—

(a) the name of the person appointed;

(b) particulars of his appointment; and

(c) the extent of his responsibilities under these Regulations.

(4) Entries in the register referred to in subregulation (3) shall be signed by the Manager and the person appointed, and unsigned entries shall be of no force or effect.

9. Appointment of miner in charge

(1) The Manager of a mine or an official may appoint a competent person to be the miner in charge of a specified section or part of a mine.

3

Cap. 45

(2) Any appointment made under subregulation (1) shall be entered in ink in a register kept expressly for the purpose which shall include—

(a) the name of the person appointed; and

(b) the section or part of the mine under his charge.

(3) Entries in the register referred to in subregulation (2) shall be signed by the person making the appointment concerned and the person appointed, and unsigned entries shall be of no force or effect.

10. Responsibilities of Manager

(1) The Manager of a mine shall—

(a) comply with and enforce the requirements of these Regulations and any lawful order given by an Inspector in the interests of safety, health and discipline and ensure that they are observed by every person employed on the mine;

(b) appoint such persons under regulations 8 and 9 as may be necessary to assist him to comply with and enforce observance of these Regulations and any lawful order given by the Inspector;

(c) take all reasonable measures to provide for the safety and proper discipline of persons employed at the mine;

(d) as soon as is practicable after the occurrence of a breach of any provision of these Regulations—

(i) report such breach to the Inspector;

(ii) take such other disciplinary steps as that Inspector may have directed or approved,

and in any event cause particulars of such breach and of any disciplinary steps taken to be entered in ink in a register kept for the purpose, which shall be open for inspection at all reasonable times by the Inspector;

(e) cause the times of the working shifts and of blasting operations in every section of the mine to be so arranged that workmen shall not be exposed to fumes and dust from blasting;

(f) provide, or cause to be provided, underground, such waiting places as may be necessary for the use of workmen prior to entering their working places, ensure that such waiting places are at all times clearly marked and, subject to subregulation (2), ensure that the miner in charge or blasting certificate holder who is responsible for the safety of these working places is the first person to enter such working places and all approaches thereto;

(g) ensure that—

(i) there is in force a system to enable a determination to be made of the number of persons in the underground workings at any time;

(ii) any person who knowingly falls to conform to any systems in force in accordance with subparagraph (1) shall be guilty of an offence;

(h) not allow any—

(i) miner or competent person to be placed in charge of a groups of workmen if, taking into account the nature or position of the working places, such miner or competent person is unable efficiently to supervise the workmen during his working shift in accordance with the requirements of these regulations;

(ii) miner to have charge of more working places or machine drills or persons than may be determined or approved by the Commissioner at any mine or section of a mine where,

in the opinion of the Commissioner, such determination or approval is necessary in the interests of safety and health;

(i) wherever necessary, provide and maintain in working order, both underground and on the surface, adequate and suitable firefighting equipment as directed in writing by the Inspector, which equipment shall be conveniently located and conspicuously marked;

(j) not permit any incompetent or inexperienced workmen to be employed on dangerous work or work upon the proper performance of which the safety of persons depend;

(k) on taking over a mine, acquaint himself with such notices as may have been issued to his predecessor or predecessors by the Inspector who shall on request supply copies of such notices;

(l) provide, that when any person employed in or about the mine receives an injury by accident or otherwise, the same shall be reported to him without delay;

(m) cause all plant, material and other things necessary for compliance with these Regulations to be provided and maintained in good order and repair.

(2) Nothing in paragraph (f) of subregulation (1) shall be construed as providing—

(a) that the miner in charge or blasting certificate holder may not be accompanied into a working place by such assistants as are necessary to assist in making such working place safe; or

(b) that an official who is the holder of a blasting certificate may not in the execution of his duties enter a working place before the miner in charge or blasting certificate holder.

11. Making of special rules by Managers

(1) The Manager of a mine may make special rules not inconsistent with these Regulations for the maintenance of order and discipline and the prevention of accidents at such mine, and shall send such rules through the Inspector to the Commissioner for his approval.

(2) If the Commissioner approves rules submitted to him under subregulation (1), the Manager concerned shall be notified accordingly and the rules may then be posted up in a conspicuous places and shall take effect after they have been so posted up for fourteen clear days.

(3) If the Commissioner considers any rule made under this regulation unreasonable, unnecessary or otherwise undesirable, he may in writing revoke it or at any time require it to be altered.

(4) An objection to any rules made under this Regulation may be lodged in writing at the office of the Inspector and shall be forwarded by him to the Commissioner who may either confirm, revoke or alter the rule concerned.

(5) When and as long as rules made under this regulations are posted up as required by subregulation (2) they shall, until they are revoked and save in so far as they are so altered have same force and effect as these Regulations and any person who contravenes or fails to comply with such rules shall be guilty of an offence, and on conviction shall be liable to a fine not exceeding one hundred thousand shillings or imprisonment for a period not exceeding six months or to both.

12. Owner to provide Manager with facilities

The owner of a mine or his agent shall provide the Manager of the mine with the necessary means and shall afford him every facility for complying with the requirements of these Regulations.

13. Responsibility for contravention of regulations

(1) Whenever a contravention of any provision of these Regulations occurs at a mine, the Manager thereof or the person appointed under regulation 17 to act in the absence of the Manager and any person duly appointed under regulations 8 and 9, in so far as responsibility in regard to the

enforcement of the observance of such provision has been assigned to him shall be deemed to be responsible for such contravention unless he proves that all reasonable means of enforcing such provision and preventing such contravention were taken.

(2) Any person through whose neglect or wrongful act contravenes any provision of these Regulations shall be guilty of an offence.

(3) The provisions of this regulation shall be without prejudice to any responsibility or liability on the part of any other person in regard to the provision or contravention concerned.

14. Deputing of work and supervision

No person shall, without the sanction of his supervision—

(a) Depute any other person to do his work; or

(b) Cease to supervise persons under his charge

15. Posting up and supply of copies of regulations

For the purpose of making known the provisions of these Regulations to all persons employed in and about the mine—

(a) abstracts of the portions of these Regulations directly concerning such persons, and any amendments thereof shall be posted up in suitable places at the mine where they can be conveniently read;

(b) a correct copy of these Regulations and any amendments thereof the abstracts referred to in paragraph (a) shall be supplied at cost price to every employee who in the opinion of the Manager is required by virtue of his appointment to have specific knowledge of them unless he is already in possession of the same or is unable to read them; and

(c) the abstracts referred to in paragraph (a) shall have the approval of the Inspector and he may order the Manager to vary them should he consider this necessary.

16. Regulations to be explained to illiterate employees

Where any employee is unable to read these regulations or the abstract referred to in section 15, the Manager shall ensure that such employee is made acquainted with the regulations concerning him or appertaining to his particular occupation and duties.

17. Appointment of acting Manager during Manager's absence

Wherever a Manager is absent from a mien for a period exceeding twenty-four hours, he shall appoint in writing in the manner prescribed under regulation 8 a suitable person to act as Manager during his absence, and during his absence the person so appointed shall be liable for the due observance of these Regulations in the same manner as if he were the Manager.

18. Obedience to orders

No person shall fail to obey any order or notice given to him in accordance with or for the proper observance of the requirements of these Regulations or any order whatsoever given in the interests of safety, health or discipline by any person authorised to give such order.

Part III – General safety procedures (regs 19-48)

19. Safety precautions to be observed by all persons

(1) Every person in or about a mine shall, before commencing and while at work, use ordinary and reasonable care to satisfy himself that all appliances and equipment in use or about to be used by him are in a safe condition and that places in which he works are safe.

(2) No person in or about a mine shall—

(a) cause or permit any other person to use anything which is unsafe;

(b) cause or permit any other person to work in a place which is unsafe;

(c) do any act or cause or permit any other person to do any act which may cause undue risk to any person.

(3) Except as otherwise provided in the Act or any other law, no person shall, without proper authority, enter or be upon any mine working or upon any part of a mine where machinery or electrical apparatus is installed or where explosives are stored or handled.

20. Anything dangerous to be reported

(1) Every workman in or about a mine who observes anything likely to produce danger of any kind shall forthwith report the same to his supervisor.

(2) Every person to whom a report is made under subregulation (1) shall, unless he himself is a competent person immediately report the matter to a competent person who shall, without delay, take appropriate action to obviate or eliminate such source of danger, and shall forthwith advise the Manager of the nature of the danger and of the action which he has taken.

21. Intoxicated persons not to enter mine

(1) No person in a state of intoxication or of apparent intoxication or in any other condition which may render him incapable of taking care of himself or of persons under his charge shall enter a mine or be near any working place on the surface or any machine in motion.

(2) No person shall take, consume or have in his possession any intoxicating liquor in the working of any mine or at any place of work on the surface of the mine unless he has received the prior permission of the Manager.

(3) Any person who enters a mine or is found anywhere at any working place above or below ground in a state of intoxication or of apparent intoxication shall be guilty of an offence and shall be immediately removed from such working place by the responsible supervisor or by the Manager.

22. Register of employees to be kept by Manager

(1) Every Manager shall keep at his mine a register in which shall be duly entered—

(a) the name of every employee on such mine;

(b) the duties, commencement and termination of service of every such employee; and

(c) in the case of the death of any such employee, the place, date and so, far as can be ascertained, the cause of death.

(2) Every register referred to in subregulation (1) shall at all reasonable times be open to inspection by the Inspector.

(3) Every Manager shall either before or within seven days after taking on employees at a mine for the purpose of commencement of working or resumption of working of the mine, give written notice to the Inspector within which the mine is situated of the fact that persons are to be or are employed at the mine.

23. Limiting of working hours

The Commissioner, if satisfied that such action is necessary for the preservation of the health of mine workers, may, by notice communicated to a Manager in writing—

(a) limit the number of hours of continuous employment of such workers on a mine or any section thereof;

(b) limit the number of such workers employed on any one shift;

(c) limit the number of shifts or rounds of blasting in twenty-four hours;

(d) withdraw all workers or any class thereof from any mine or section thereof;

(e) impose conditions as to the employment of any class of workers.

24. Commissioner may grant exemptions

Without derogation from any other provision for exemption, whenever—

(a) the circumstances at any mine are such that any provision of these Regulations cannot be applied or are unduly onerous; or

(b) it is necessary for the purpose of carrying out experiments or tests as to the expediency of any regulations or proposed regulations,

the Commissioner may grant written exemption from the operation of such provision for such period and subject to such conditions as he may specify in such exemption:

Provided that an exemption under this regulation—

(i) shall not be granted for a period of more than twelve months; and

(ii) shall not be renewed or extended except by the Commissioner for a further period not exceeding twelve months, and thereafter by the Minister under regulation 25.

25. Minister may grant exemption

The Minister may exempt in writing any mine or class of mines from the operation of any provision of these Regulations for such period and subject to such conditions as he may specify.

26. Withdrawal or alteration of exemptions, permit, etc.

When any provision of these Regulations confers the power to grant, make or issue any exemption, approval, permit, permission, determination, prohibition, notice, requisition or order, that power shall be construed as including power, executable in the like manner and subject to the consent and condition, if any, to vary or withdraw it.

27. Lunch rooms, change houses and sanitary conveniences

The Manager shall supply drinking water complying with the drinking water standards of the Ministry of Health in locations that—

(a) are reasonably accessible to employees;

(b) are kept clean and in a sanitary condition; and

(c) are designed to permit the water to be dispensed and drunk in a sanitary manner.

28. Use of solder

New installations of pipes and vessels, and change to existing pipes and vessels which carry water to be used in whole or in part by persons for drinking purposes, shall not be constructed using solder containing more than 1% lead.

29. Lunch rooms

Where seven or more persons regularly congregate to eat food, other than where the mining activity of an open pit mine is performed, a lunchroom shall be provided which shall—

(a) be maintained at adequate temperature, lighted, and ventilated;

(b) have or be located near facilities for persons to wash with running water and dry their hands;

(c) not have an entrance through a toilet facility;

(d) contain sufficient fire retardant receptacles with lids which shall be used by employees to dispose of all waste food, paper, and other related material, and the containers shall be emptied regularly;

(e) have suitable seating facilities and tables which shall be kept in clean and sanitary condition;

(f) be located in an area away from process chemicals and contaminants.

30. The Manager to provide separate facilities

(1) The Manager shall provide separate facilities for male and female employees to wash and shower, and to change and dry their clothing—

(a) at a surface mine where persons are subject to dusty, dirty, or wet conditions; and

(b) at an underground mine, and his facility shall include separate storage facilities for street clothes and working clothes;

(c) adequate number and separate toilet facilities for male and female employees.

(2) The facilities shall have separate approaches with signs clearly indicating for which sex they have been provided.

31. Change house requirements

A change house shall—

(a) not be located in a headframe, boiler room, engine room, bunkhouse, or dining room unless a separate;

(b) provided with a clothes hook and lighting where electricity is available; and

(c) kept clean and hygienic, and any waste products shall be disposed of regularly.

33. Under-ground toilets

Toilets in an underground mine and portable toilets on surface shall be conveniently located in well-ventilated areas having regard to the number of employees in the various parts of the mine, and—

(a) be equipped with adequate sanitary facilities and provide privacy;

(b) be maintained in a hygienic condition and have all waste material removed regularly.

[please note: numbering as in original.]

34. No deposition of faeces

No person shall deposit faeces or urine in any place in a mine other than a deposition toilet.

35. Appointment of inspectors

(1) Pursuant to the provisions of section 16(4) of the Act, the Minister in consultation with the Commissioner may appoint a suitably qualified public officer to be a Chief Inspector of Mines, who shall exercise and perform the functions conferred or imposed upon him by the Act and these Regulations.

(2) Pursuant to the power conferred upon the Minister under Section 16 of the Act, there shall be appointed an appropriate number of suitably qualified public officers each to be the Inspector of Mines, who shall exercise and perform the functions conferred or imposed upon the Inspector by these Regulations.

(3) An Inspector shall have the power to do all or any of the following things—

(a) to make examination and inquiry to ascertain whether the provisions of these Regulations are being or have been complied with; and

(b) to enter, inspect and examine any mine or any mine or any machinery in connection therewith and every part thereof at all times by day and night;

Provided that unless it is unavoidable, no entry, inspection or examination shall be made in a manner which will impede or obstruct the working of the mine; and

(c) to examine into and make inquiries respecting the state or condition of any mine or any part thereof and of all matters or things connected therewith in so far as such related to the well being or safety of persons employed therein or in any mine contiguous thereto; and

(d) to inquire into circumstances of accidents or breaches of these Regulations.

36. Powers and duties of inspectors

(1) An Inspector shall, where he is making a safety and occupational health inspection, on arrival at the mine, request the Manager to arrange for one representative of the employees and that of the management to accompany him on the inspection.

(2) Notwithstanding subregulation (2), the Inspector may perform the inspection without either or both management and worker representatives, but on completion of the inspection he shall meet with or otherwise communicate with each representative referred to subregulations (2) to discuss his findings and their safety and occupational health, concerns, if any.

(3) An Inspector shall complete his inspection report within seven days and forthwith provide the Manager, and, in the case of a safety and occupational health inspection, the representative of employees with a copy of his inspection report on its completion, and the report shall—

(a) list the work places inspected;

(b) list the infractions noted; and

(c) order remedial action and specify time limits for compliance.

(4) Where the Inspector is of the opinion that a delay in remedying a hazard would be dangerous to persons or property, he shall issue and order—

(a) for immediate remedial action;

(b) to suspend regular work until remedial action is taken; or

(c) to close the mien or part of it until remedial action is taken.

(5) The Manager shall, within 15 days after receiving the inspection report, submit a written report outlining the remedial steps taken and the work still outstanding and shall forthwith provide a copy to the Inspector and, in the case of matters relating to safety and health to representative of employees.

(6) An Inspector may order the operation of a mine to be conducted in a manner that will not interfere with a public work, public service, public utility, highway or railway, or with a pipeline or an adjacent mine property.

(7) (a) Where an Inspector is of the opinion that work may be necessary in, on, or about a closed or abandoned mine in order to avoid danger to persons or property or to abate pollution of the land and watercourses affected by the mine, he may enter on or below the surface of the mine and may cause work to be done to remove or alleviate the danger or remedy the pollution.

(b) The costs incurred for work done under this section shall be paid from the appropriate revenue fund without an appropriation other than this subregulation.

(c) The amount expended plus interest at a prescribed rate is a debt due to the Government and forms a lien and charge on the mine or holder of mineral right in favour of the Government.

(d) Notice of the debt may be registered as a charge in the mineral right office or in the office of the Commissioner, and no transfer of mineral right or other dealing with the mine shall take place until the debt is paid and the notice cancelled.

(e) The Minister may, with or without payment and on conditions he may impose, cancel the notice registered under subregulation (4) and, on that happening, the mine may be transferred or otherwise dealt with.

(8) (a) The Chief Inspector, in consultation with the Inspector may order the owner, agent, or Manager to provide an independent study prepared by a registered engineer or other registered professional acceptable to the Inspector—

(i) in respect of safety and health at the mine or safety of its equipment, buildings, workings, or structures; or

(ii) in connection with an accident or dangerous occurrence that the Inspector is investigating.

(b) Subject to subregulation (1) the expenses incurred in respect of the independent study shall be equally shared between the Government and the owner, agent or Manager of the mine.

(9) (a) No action for damages because of anything done or omitted to be done in good faith—

(i) in the performance or intended performance of any duty; or

(ii) in the exercise or intended exercise of any power under the Act or these Regulations, shall be brought against the Chief Inspector or the Inspector.

(b) Subregulation (1) does not absolve the Government of vicarious liability for an act or omission of the Chief Inspector or the Inspector for which act or omission the Government would be vicariously liable if this section were not in force.

(10) When at any mine a mining accident occurs involving the death of any person or the injury of any person which is likely to result in death, the Inspector shall investigate and inquire into the circumstances of the accident and shall, as soon as possible thereafter submit a full report in writing thereon together with any statements taken by him to the police.

37. Special powers of Inspectors

(1) In any case where the Inspector finds any mine or part thereof or any machinery, plant, matter, thing or practice therein or connected therewith to be dangerous or defective so as, in his opinion,

to threaten the health or tend to cause bodily injury of any person and the case is not, in his opinion, sufficiently provided for elsewhere in these regulations, the following special provisions shall apply—

(a) the Inspector shall, by requisition in writing addressed to the Manager and delivered at the mine, specify the nature of the danger or defect and his reason for holding that the same exists and require the matter complained of to be remedied within a specified time;

(b) on receipt of such requisition the Manager shall comply therewith or, if he intends to object as provided in paragraph (c), he shall forthwith cease to use the said mine or part thereof, machine, plant, matter, thing or practice in respect of which such requisition has been given and shall forthwith withdraw all persons from the danger indicated by the Inspector until such time as the matter shall have been determined by arbitration;

Provided that, if in the opinion of the Inspector, there will be no immediate danger, he may allow to proceed for such period and subject to such restrictions and conditions to ensure the safety of the workmen as they deem necessary and stipulate in writing;

(c) if the Manager objects to comply with such requisition he may, within seven days after the delivery thereof as aforesaid, send his objections in writing, stating the ground of his objections to the Inspector who shall send a copy thereof to the Chief Inspector and thereupon the matter shall be referred to the decision of the Commissioner;

(d) the Manager shall comply within fourteen days with a decision of the Commissioner which is made under paragraph (c).

38. Evidence at inquest

An Inspector shall be deemed a person whose interests may be at inquest affected by evidence likely to be adduced at an inquest.

39. Powers of Commissioner

All the powers, rights and duties of an Inspector may be exercised or performed by the Commissioner or the Deputy Commissioner.

40. Manager to provide facilities

Every Manager shall furnish to an Inspector the means necessary for making an entry, inspection, examination or inquiry in terms of these Regulations.

41. Offences and penalties

(1) Any person who contravenes any provisions of these Regulations or fails to comply with any provisions of these Regulations with which it is his duty to comply shall be guilty of an offence.

(2) Any person who is guilty of an offence in terms of subregulation (1) shall be liable to a fine not exceeding five hundred thousand shillings or imprisonment for a period not exceeding one year or to both.

42. Protection of surface

(1) Where mining operations have caused subsidences or cavities on the surface, or where such are likely to occur, such places shall be securely fenced in and conspicuous notice boards put up to warn person off.

(2) For the protection of grounds and any surface objects which it is necessary to protect in the interests of personal safety or public traffic, and the removal of which may be inexpedient, the reefs, coal beds or other mineral deposits shall be left intact not only vertically below the same, but also for such a distance beyond as the Chief Inspector may consider necessary.

(3) Permission for the entire or partial excavation of the ground beneath such surface objects may be obtained from the Commissioner to the extent and under such precautions and conductions as he may prescribe in each separate case.

(4) The driving of tunnels through such safety pillars not exceeding two metres in width for the purpose of connecting two separate mines or parts of a mine shall only be allowed with the special written permission of the Chief Inspector, upon precautions prescribed by him being observed.

(5) All excavations made contrary to the provisions of the preceding regulation shall be immediately filled up with loose rock debris or earth by the person or persons responsible for such excavation, failing which they shall be filled up by the Government at the expense of the owner of the mine.

(6) Should any ground under which mining is forbidden by law be undermined unlawfully the owner of the mine concerned shall, in addition to any punishment inflicted on the Manager, pay to the Government the value of the mineral wrongly extracted. The basis of the calculation of the value of such mineral shall be the average yield of mineral produced from the mine during the preceding six months.

(7) If, in the opinion of the Inspector of Mines, disused prospecting works are dangerous to life, or endanger public traffic, he may order them to be filled in with ground to the level of the surface or otherwise securely fenced in by the holder of a mineral right,

(8) The mouth of every shaft or entrance to a mine which for the time being is out of use or used only as an air way, and the approach of every open working not being ordinary prospecting trenches, and all elevated and exposed platforms and gangways shall be kept securely or otherwise protected.

(9) Water containing poisonous or injurious chemical solutions, used in the treatment of gold or other ores, must be effectually fenced off to prevent inadvertent access to it, and notice boards shall be put in suitable places to warn persons from making use of such water.

(10) In no case may water containing any poisonous or injurious chemical solution be permitted to escape or enter any stream, lake, race, dam or reservoir or other stagnant water without having been previously rendered innocuous.

(11) If any person neglects to comply with the provisions laid down in subregulations (6) and (7) he shall be guilty of an offence and the Government shall in any case have the right to fill up or otherwise protect such trenches at the expense of such person.

43. Impairment and general conduct

(1) No person shall enter, remain, or be knowingly permitted to enter or remain in, any mine if, in the opinion of the supervisor, his ability is so impaired as to endanger his health or safety or that of another person.

(2) No person shall engage in any improper or foolhardy behaviour such as horseplay, scuffing, fighting, playing practical jokes, or other conduct that might create or constitute a hazard to himself or any other person.

(3) No person shall, without cause, render ineffective any device, equipment, or material provided for the protection of the health and safety of persons employed in, on or about a mine, or the safety of the public.

(4) The Manager shall not employ any person under the age of eighteen years at a mine except for the purpose of training that person.

(5) The Manager shall ensure that a method acceptable to the Inspector is adopted to account for all persons going on and off shift.

(6) When a worker is working alone and may not be able to secure assistance in the event of injury or other misfortune the Manager shall ensure that a means exists for checking the well-being of the worker and that the interval between checks does not exceed 2.5 hours.

44. Working conditions

(1) The Manager or a person authorised by him shall personally supervise all work involved in correcting an unusual hazard and such work shall be carried out in accordance with safe working practices and in compliance with this code and with a plan approved by the Manager.

(2) No person shall be allowed in any location at a mine where persons are working overhead unless adequate protection is provided for their safety.

(3) When persons are required to work or be near water where drowning could be a risk—

(a) the Manager shall provide, at conspicuous locations, life buoys equipped with heaving lines of adequate length which conform with Government standards; and

(b) if persons are required to be transported across water, the Manager shall provide each of them with a personal flotation device conforming to Government specifications.

(4) Where there is a risk of a worker coming into contact with moving parts of machinery or with electrically energized equipment, or where the work process in such that a similar hazard exists—

(a) the clothing of workers shall fit closely about the body;

(b) dangling neckwear, bracelets, wrist-watches, rings, or similar articles shall not be worn;

(c) the wearing of medic-alert bracelets is permitted when such bracelets are used with transparent rubber bands that fit snugly over the bracelets;

(d) cranial and facial hair shall be confined, or worn at a length which will prevent it from being snagged or caught in the work process.

(5) Where a materials handling task endangers the safety of the persons doing the work, the Manager shall ensure that—

(a) the physical parameters of the handling task are redesigned;

(b) mechanical lifting aids or personal protective equipment are provided;

(c) the work area where the work is carried out is redesigned to eliminate unsafe conditions relating to floor surfaces, lighting, or obstruction to materials handling; or

(d) a combination of (a), (b) or (c) is implemented.

(6) Where the equipment, work procedure, or working conditions in a working area has caused injurious inflammation of muscles, tendons, or bursae of the upper limbs of the persons doing the work, and it is demonstrated to be from repetitive or forceful use as determined by registered medical Practitioner, the Chief Inspector, where practicable, require implementation of one or more of the following preventive measures—

(a) modification of work procedures or equipment to reduce physical demands on affected body areas;

(b) a rescheduling of work to permit safe adjustment to unaccustomed task requirements.

45. Procedures when working in confined spaces

(1) The Manager shall ensure that written procedures acceptable to the Chief Inspector are developed and implemented for work in confined spaces where irrespirable, toxic, or flammable atmospheres might be encountered.

(2) Subject to subregulation (1) the procedures required shall include—

(a) the use of lifelines and safety belts whenever possible;

(b) when lifelines and safety belts cannot be used two persons with respiratory protective equipment and capable of performing a rescue shall be stationed outside the confined space in which persons are working to visually check the persons in the confined space at frequent intervals;

(c) maintenance of an effective means of communication between persons inside and outside the confined space;

(d) specified time intervals for making periodic visual contact with persons inside the confined space;

(e) specific procedures to be followed whenever welding or burning operations are to be carried out in the confined space;

(f) appropriate breathing apparatus and persons trained in its use, and readily available at every confined space in which persons are working;

(g) compressed air used for breathing complying with the requirements of Government Standard; and

(h) disconnection, blanking or blinding off pipes carrying substances that could be hazardous to the persons entering the confined space.

46. Precautions when working in harmful atmosphere

(1) A person without self-contained breathing apparatus shall not enter a confined space in which a harmful atmosphere might exist or develop until—

(a) tests have been made to determine the nature and quantity of harmful vapours, gases, fumes, mists, dusts, and the oxygen content of the atmosphere inside the confined space and these test results shall be recorded in a logbook kept for that purpose;

(b) the written work procedures under regulation 45(1) have been read and understood by the person and the required emergency and rescue procedures are in place; and

(c) the confined space is being ventilated continuously by a natural or forced ventilation system.

(2) Tests of the atmosphere inside the confined space shall be made at intervals during the work process to ensure that the quality of the air does not deteriorate and the test results shall be recorded as required by subregulation (1)(a).

(3) Where tests made under subregulation (1) or (2), or any other test or examination, indicates a harmful atmosphere or the presence of a harmful substance, the confined space shall be ventilated or cleaned, or both, and retested or re-examined to ensure that no person without self-contained breathing apparatus is allowed to enter the confined space unless—

(a) the atmosphere or substance in the confined space is no longer considered harmful according to the acceptable standards prescribed by the Government; and

(b) the oxygen content of the atmosphere inside the confined space is not less than 18%.

(4) Where tests under subregulations (1) and (2) indicate the presence of harmful or explosive substances and it is not practicable to provide a safe, respirable atmosphere—

(a) the persons entering the confined space shall wear self-contained breathing apparatus and personal protective equipment;

(b) the concentration of flammable substances shall be maintained below 20% of the lower explosive limit as determined by repeated testing;

(c) all possible sources of ignition shall be eliminated or controlled where flammable substances exist; and

(d) the person entering shall be attended by two designated persons stationed immediately outside the confined space who shall visually check those persons in the confined space at frequent intervals and who are equipped and capable of performing a rescue.

47. Fire prevention

(1) No person shall—

(a) light or build a fire in an underground mine; or

(b) weld, cut by the use of heat or flame, or use a blowtorch in an underground coal mine without the written permission of the Inspector.

(2) No person shall possess while underground in a coal mine or in any part of a mine designated by the Manager—

(a) a match or apparatus of any kind for creating an open flame or spark except as exists in a flame safety lamp; or

(b) cigarettes, cigars or smoking materials in any form.

(3) Fire hazard areas shall be identified by warning signs, and persons shall not smoke, use open flame lamps, matches, or other means of producing heat or fire in designated fire hazard areas.

48. Work place conditions

(1) The Manager shall—

(a) take all reasonable and practicable measures to ensure that the workplace is free of potentially hazardous agents and conditions which could adversely affect the safety, health or well-being of the workers;

(b) where practicable, institute controls at the source to ensure that workers are not exposed to levels of any physical chemical, or radiation hazard in excess of the limits prescribed in the regulations or by the Inspectors, with the exception or unusual short term or emergency situations; and

(c) require that persons wear effective protective equipment in any situation where control at the source, as required by paragraph (b), is impractical.

(2) One or more units of self-contained breathing apparatus and fully charged cylinder of compressed air containing not less than 8.5 cubic metres of free air at normal local atmospheric conditions shall be maintained in every underground hoist room.

Part IV – Emergency preparedness (regs 49-56)

49. Industrial first aid

(1) The Manager shall provide and maintain in good working conditions first aid supplies and services.

(2) The Chief Inspector may order an increase in the first aid supplies or services required by subregulation (1).

(3) The Manager shall provide a means of communication acceptable to the Inspector by which the services of a physician can be obtained expeditiously.

50. Mine rescue

(1) The Manager shall develop and file with the Inspector, a mine rescue emergency plan which shall be kept up to date and followed in the event of an emergency.

(2) The Manager shall ensure that the mine has—

(a) where the number of persons employed underground at any one time is more than 10 but less than 50, at least one fully trained and equipped mine rescue team; and

(b) where the number of persons employed underground at any one time is 50 or more, at least two fully trained and equipped mine rescue teams.

(3) The Manager of an open pit mine employing more than 25 persons per shift shall ensure that—

(a) there is at least one fully trained and equipped mine rescue team; and

(b) on every shift where more than 10 persons are working, there are four persons trained in mine rescue procedures.

(4) The Manager of a mine employing less than 10 persons underground at any one time shall—

(a) develop a mine rescue emergency plan and have it approved by the Inspector; and

(b) maintain such rescue apparatus and equipment as prescribed by the Inspector and ensure that personnel are adequately trained in its use.

(5) The normal composition of a mine rescue team shall be six qualified members, one of whom shall be the team leader, one the assistant team leader and one the co-ordinator who shall remain at the fresh air base at all times.

(6) A person shall not be considered as a qualified member of a mine rescue team unless—

(a) he is in possession of a valid mine rescue certificate and a valid first aid certificate, or equivalent;

(b) he is free from a beard, moustache, or sideburns that could interfere seal of any breathing apparatus; and

(c) he is considered competent to act as a mine rescue team member by the person appointed as a trainer under regulation 90.

(7) The Manager shall send a list of the names of the qualified team members to the Inspector on June 30th and December 30th of each year.

(8) The trainer appointed under subregulation (9) shall record in a suitable logbook—

(a) the dates and times of all team practices;

(b) the names of those attending and absent, if any, with reasons for their absence;

(c) a brief description of what was practised;

(d) the equipment used and its condition at the end of the practice session; and

(e) any other relevant information.

(9) The Manager shall—

(a) appoint a qualified person as a trainer for mine rescue team members;

(b) ensure that, all mine rescue team members practise as a team for not less than 8 hours during each 3 months the mine operates;

(c) ensure that all mine rescue team personnel are not underground at any one time except during rescue work or training;

(d) ensure that no person shall be selected for mine rescue training in order to become a qualified team member unless he possesses a valid first aid certificate or equivalent and, in case of an underground mine, not less than 6 months experience in underground work.

(10) Where self-contained breathing apparatus is required, it shall be of a type approved by the Chief Inspector.

(11) The Manager shall ensure that the plans required under Part XII of these Regulations are readily available for the use of mine rescue teams.

(12) The Manager shall appoint a qualified person to be responsible for the maintenance and repair of the rescue apparatus and advice the Inspector in writing of the appointment.

(13) The rescue apparatus shall be continuously maintained in accordance with the manufacturer's recommendations and stored in a room set aside for that purpose so as to be always available for immediate use.

51. Emergency training

(1) The Manager shall ensure that every hoistman and cage attendant who may be required to use breathing apparatus is trained in its proper use.

(2) Every hoistman and cage attendant who may be required to use breathing apparatus shall be responsible for ensuring that the apparatus is always readily available to them while they are underground.

(3) The Manager shall ensure that all persons who are required to work in a mine are trained and re-trained annually in survival rescue procedures, including the use of self-rescue apparatus authorised by the Chief Inspector.

(4) The Manager of a surface mine shall ensure that emergency procedures, properly maintained equipment, and trained personnel are available to respond to a fire, explosion, or dangerous incident while the mine is in operation.

52. Surface fire fighting

(1) The Manager shall ensure that fire fighting equipment is provided and maintained in or about every headframe, portal house, shaft house, processing plant and other buildings at a mine where fire may endanger life.

(2) The Fire and Rescue Services Act[4] shall apply in determining the level of fire fighting equipment and maintenance as prescribed in subregulation (1).

53. Underground fire fighting

(1) The Manager shall ensure that suitable fire fighting equipment are provided and maintained at all underground crusher stations, electrical installations, pump stations, shaft stations, tipples, conveyors, service garages, fueling stations, and where a fire hazard may exist.

(2) At least 2 suitable fire extinguishers shall be provided and maintained at each stationary electric or diesel motor, transformer, and at any switchgear in use underground.

(3) The location of the fire fighting equipment required by subregulation (2) shall be such that, in the event of a fire, the direction of the mine ventilation air flow will not prevent or hamper the effective use of the equipment.

(4) Fire extinguishers which are capable of giving off or generating poisonous gas when operated shall not be allowed below ground.

4

Act No. 3 of 1985

(5) The Manager shall ensure that inspection and, if necessary, testing and maintenance of all fire fighting equipment are carried out by a qualified person at least once quarterly, and the results should be logged and be open for scrutiny by the Inspector.

(6) The Manager shall ensure that—

(a) training in fire fighting is carried out under the direction of a qualified person;

(b) all person newly employed at a mine shall be given instruction in the use of fire fighting equipment during the first three months of employment; and

(c) all persons continually employed underground shall receive a refresher course in the use of fire fighting equipment at intervals not exceeding two years.

(7) The qualified person appointed by the Manager to carry out the training required under subregulation (6) shall record all drills and practices and the name of each person in attendance.

(8) The position of all fire fighting pipe lines, hydrant valves, tire stations, and fire cabinets shall be shown on a plan drawn to a scale of not less than 1:2500 with a metric seal/bar and a marked north point. The plan shall be updated at intervals not exceeding three months.

54. Underground coal fire fighting

(1) A reservoir containing not less than 100,000 litres of water at all times be maintained to supply water at adequate volume and pressure to underground coal mine workings.

(2) Fire hydrants, operated by wheel valves, shall be located—

(a) 20m on the intake side of conveyor loading and transfer;

(b) points, main junctions, and electrical substations;

(c) along such roadways as prescribed by an Inspector at intervals not exceeding 100m;

(d) at suitable central points in room and pillar workings.

(3) In close proximity to each fire hydrant there be a cabinet containing—

(a) a branch pipe and nozzle of 40mm minimum internal diameter; and

(b) sufficient lengths of hose to cover the distance between each cabinet, and the hose shall have a minimum internal diameter of 40mm and a working pressure of 1,000 KPA.

(4) (a) A fire station shall be situated at the bottom level and at every intermediate level of a downcast shaft or slope which provides access to active working areas of the mine.

(b) In the case of a drift mine with a walkable intake airway, the Chief Inspector may give permission for the fire station to be situated on the surface close to that airway.

(5) The minimum number of equipment housed in or near a fire station shall be—

(a) not less than 120in of fire hose with couplings, branch pipe, and nozzle of 40mm minimum inlet diameter designed to a working pressure of 1,000 kPA;

(b) a backup supply of fire extinguishers; and

(c) a supply of sand bags or equivalent acceptable to the Inspector.

55. Gas detectors

(1) Every device used for the detection of flammable or noxious gas at a surface or underground mine shall be of a type approved by the Chief Inspector.

(2) The Manager shall appoint a qualified person to be responsible for maintaining the appliances used for detection of flammable or noxious gases.

(3) Any person authorised to carry and use an appliance for the detection of flammable or noxious gas shall—

(a) check the appliance for damage and to ensure it is in proper working order before use;

(b) not use the appliance if found damaged or dysfunctional; and

(c) take all reasonable precautions to prevent the appliance from being damaged.

(4) In the case of a flame safety lamp with a self-contained relighting device, not attempt to relight the lamp if the presence of flammable gas is suspected.

56. Evacuation

(1) The Manager of a mine shall—

(a) prepare procedures for the safe evacuation of the mine or part of the mine in the event of a fire and for the control of the fire;

(b) post copies of the procedures in conspicuous places at the surface and underground; and

(c) ensure that each employee receives instruction in the procedures prepared under subparagraph (a) and that he can recognise the emergency warning system and is familiar with the emergency escape routes from the mine.

(2) The Manager shall develop and maintain a system acceptable to the Chief Inspector for warning all employees, whether underground or in buildings on the surface, of an emergency requiring prompt evacuation of their work places.

(3) A test of the warning system required under subregulation (2) that does not involve evacuation of key process personnel shall be carried out at least once every twelve months on a production shift, and the Manager shall ensure that key process personnel unable to evacuate are knowledgeable with the warning system and the evacuation procedure.

(4) A report of all emergency warning system tests including their effectiveness, shall be sent to the Inspector.

Part V – Machinery (regs 57-69)

57. Reporting prior to use of machinery

The Manager shall report to the Inspector at least fourteen days prior to bringing into use any boiler or any steam, oil or gas engine or any plant for the generation of power, the nature of the plant with the indicated horse-power and the purpose for which it is to be used.

58. Engineer to be in charge

A competent engineer shall be in charge of any plant the indicated horse-power of which is over fifty. This provision shall not be deemed to exonerate the licensee and his agent from responsibility for seeing that any plant of fifty horse-power or less is used only under proper supervision.

59. Plant and handling of machinery

(1) All machinery used or to be used in or about a mine—

(a) shall be suitably designed for safety in the use made or to be made of it;

(b) shall be installed and maintained in a safe and serviceable condition; and

(c) be regularly tested and examined for defect.

(2) If the result of any such examination or test shows that any machinery is or is likely to become unsafe or unserviceable such machinery shall not be used until all necessary repairs have been carried out and it has been made safe and serviceable.

60. Inspection 60 on machinery

(1) The Inspector may at any time require a licensee or Manager or his agent to prepare any machinery or plant for his inspection. Not less than one week's notice in writing of the date on which he intends to hold the inspection shall be given by the Inspector.

(2) If on examination a machinery or plant is found to be in a condition from which immediate danger may arise, the Inspector may order the working of such machinery or plant to be provisionally discontinued, and may not be used again before it has been properly repaired and permission has been obtained from the Inspector.

(3) In case of objection to any instruction or decision given by the Inspector regarding any thing or practice in connection with machinery or plant or any part thereof not provided for by any provisions of these Regulations, the Manager may within twenty-one days lodge a written appeal with the Commissioner.

61. Operating of locomotives

(1) Any train operated in or about the mine shall be provided with an efficient means of communication between the driver and the brakeman.

(2) Supplies, materials or tools shall not be carried on top of a locomotive except as directed or allowed otherwise.

(3) A train shall be coupled or uncoupled only while the train is stopped.

(4) Except where shunting operations are being carried out, every locomotive, car, truck or other rail conveyance shall be connected by a suitable coupling to another rail conveyance. All couplings shall be maintained in a safe and serviceable condition.

(5) Subject to subregulation (6), a person other than the driver shall not ride on a locomotive.

(6) The brakeman may ride on a locomotive if a suitable seat or a suitable-footplate and handgrips are provided on a locomotive.

62. Handling of vehicles

(1) A vehicle used in, on or about a mine—

(a) shall not be left unattended unless the brakes are effectively applied or such vehicle is effectively prevented from moving;

(b) where a vehicle is to be left unattended on a slope, the engine shall be stopped and the wheels shall be prevented from moving by suitable chocks.

(2) The Manager, where necessary to ensure the safe use of vehicles in, on or about a mine shall—

(a) determine the maximum load and the maximum speed, of every vehicle and advice their operations in writing or by means of a notice exhibited in the vehicle; and

(b) cause signs advising the safe vehicle speed, right of way;

(c) place limitation on travel by persons and any other appropriate information to be displayed in travelling ways and at corners, intersections, steep grades and other appropriate locations.

(3) When persons are permitted to travel on a vehicle, trailer or train the Manager shall—

(a) determine the number of persons that may safely be carried and the manner in which such persons are to be carried; and

(b) display on the vehicle, trailer or train, a notice showing the number of persons to be carried.

(4) (a) Supplies, materials or tools shall not be carried on a vehicle in such a manner that is likely to cause undue movement of the load during transit or to cause anything to fall or become dislodged from the vehicle.

(b) Supplies, materials or tools, other than small handtools, that are being transported on a vehicle in the same compartment as persons shall be secured so as to prevent injury to any person during transit.

(5) (a) The bucket of any shovel, loader or other loading machine shall not traverse over the operators cabin of any vehicle during loading operations.

(b) Loose dirt, waste, or other granular material shall not be dumped on the canopy provided for the protection of the operator or the operator's cabin of any vehicle.

(c) The operator shall not leave or enter the operator's cabin of any vehicle during loading operations.

(6) Where ore, waste or other granular material is to be dumped from a truck or other vehicle over a bank, down a slope, into a bin, chute, ore pass or waste pass, a barrier shall be provided to stop the vehicle moving too far over the bunk or slope or entering the bin, chute, ore pass or waste pass, except where the operator of the vehicle is assisted by a spotter during the dumping operations.

63. Requirement of belt driven-machinery

(1) Belt-driven machinery which it is necessary to stop and start without interfering with the speed of the prime mover shall be permanently fitted with a satisfactory mechanical appliance for the purpose.

(2) Shipping and unshipping driving belts whilst the machinery is in motion is forbidden, with the exception of the customary shifting of light belts on the coned pulleys of machine tools for the purpose of alterations in the working speed.

64. Conveyor belt to have device

A conveyor belt used in, on or about a mine shall have a device that will cut off automatically the power to the motor in the event of excessive slip occurring between the belt and a driving drum except as directed or allowed otherwise.

65. Oils to be kept in closed containers

Grease, hydraulic oil or lubricating oil shall not be stored underground except in closed containers and in approved quantities.

66. Fencing of moving parties

All exposed machinery, which, when in motion may be dangerous to persons, must be securely fenced off so that no person can inadvertently come into contact with or be injured by reason of the same, and efficient guards shall be provided to the satisfaction of the Inspector.

67. Unauthorised entrance prohibited

(1) Unauthorised entrance into any place where machinery or steam boilers are erected is prohibited. Notices to this effect shall be posted up at all entries.

(2) No person not properly authorised in that behalf shall remove or render useless any fencing, means of signalling, signal cabin, flange, brake, indicator, ladder, platform, steam-gauge, water-gauge, safety valve or anything in any mine provided for the safety of any miner or workman.

68. Pressure vessels to be secured

All cylinders and receivers for air and gas of a higher pressure than the atmosphere shall be fitted with satisfactory apparatus for at all times showing the pressure of air or gas; also with a relief or safety valve or other apparatus capable of preventing any undue accumulation of pressure above safe working limit of the container (cylinder, receiver or holder).

69. Mercury retorts to be sealed

(1) All retorts used for gold-mercury amalgamation shall be sealed tightly to avoid any leakage of mercury vapour. The tight seal shall be tested and certified by a recognised bureau or institution of setting standards.

(2) The Inspector may demand certification for any retort used for gold-mercury amalgamation and when the Inspector is satisfied that a particular retort may lead to danger, he may order, in writing, to stop using such retort.

Part VI – Winding and tramming (regs 70-93)

70. Winding system requirements

(1) Before any winding system for the transportation of persons, materials or rock is installed, erected or re-erected in a mine, the Manager shall ensure that—

(a) the Inspector is notified in writing of the intention to construct, erect or re-erect the winding system;

(b) plans showing the location of the shaft together with the general layout of the system are submitted to the Inspector;

(c) details of the designs of the various components of the winding system being installed, erected or re-erected are submitted to the Inspector.

(2) The Inspector may require the provision of design information additional to that provided in paragraph (a) of subregulation (1).

(3) The Manager must ensure that a requirement for provision of additional design information under subregulation (2) is complied with within one month after the day on which it is made.

71. Winding system to be approved by Inspector

(1) The Manager must ensure that no winding system, machinery, plant or apparatus for haulage is used in a shaft in the mine unless the winding system, machinery, plant or apparatus has been approved by the Chief Inspector.

(2) An approval under subregulation (1) may be subject to such conditions as the Chief Inspector thinks fit and specifies in the approval. The approval for winding system for raising or lowering persons is also subject to other conditions provided under this Part.

(3) The Chief Inspector may—

(a) cancel or suspend the approval; or

(b) amend, add to, vary or delete any condition to which an approval is subject.

(4) The Manager must ensure that a person does not use or operate a winding system, machinery, plant or apparatus for haulage in a shaft in the mine—

(a) if the approval relating to its use is suspended or cancelled; or

(b) in contravention of a condition of the approval.

72. Winding to be tested

The Manager must ensure that before a winding engine is used at the mine—

(a) it has been tested to the satisfaction of the Chief Inspector;

(b) an Inspector has verified that it is capable of performing in accordance with its design and within the limitation that apply in relation to its working;

(c) the Inspector has made a record in the record book that the verification referred to in subparagraph (b) has taken place.

73. Repair of the winding system

(1) Before any repair, modification or alteration is carried out to the main structure, safety devices, or other safeguards of a winding system at a mine, the Manager must ensure that—

(a) the Inspector is notified in writing of the intention to carry out that work; and

(b) plans, specifications, drawings and design calculations are submitted to the Inspector which indicate the nature and extent of that work.

(2) The Inspector may require additional information in addition to that provided under subregulation (1).

(3) The Manager must ensure that a requirement for provision of additional design information under subregulation (2) is complied with within one month after the day on which it is made.

(4) The Manager must ensure that no repair, modification or alteration is carried to the main structure safety devices or other safeguards of a winding system without the approval of the Inspector.

(5) When any notification is received under regulation 139, the Inspector may approve or reject the repairs, modification or alteration.

(6) The approval may be subject to such conditions as the Inspector thinks fit and specifies in the approval.

(7) The Chief Inspector may—

(a) cancel or suspend an approval; or

(b) amend, add to, vary or delete any condition to which an approval is subject.

(8) The Manager must ensure that repairs, modifications or alterations of a winding system are not carried out—

(a) if the approval relating to that work is suspended or cancelled; or

(b) otherwise than in accordance with any condition that applies in relation to that work.

74. Winding system to be kept ready

Where the usual method of egress from a mine is provided by means of a winding system, such winding system shall be kept ready for use and the person in charge thereof shall remain in charge whilst any person is below the mine unless an alternative approved means of egress is available for use.

75. Operation of the hoist

(1) A person must not operate a hoist and the Manager must not permit a person to operate a hoist unless—

(a) the Manager is satisfied that the person is competent to operate the hoist; and

(b) the Manager or competent person has tested the person and is satisfied that the person knows all relevant hoisting signals and procedures.

(2) The Manager must ensure that a record is made in a record book of—

(a) the name of each person who is competent to operate a hoist;

(b) the date on which the person was tested and the name and signature of the examiner.

(3) The Manager may determine that the person is no longer competent to operate the hoist. Upon such determination—

(a) the Manager must notify the person accordingly; and

(b) the person must not operate a hoist upon receipt of a notification.

76. Passage to be kept clear

Every shaft and every cage, counter balance, skip and kibble, winding rope, balance rope, guide and piece of equipment used in a shaft shall be designed, constructed, installed and maintained so as to ensure the unobstructed passage between the highest and lowest normal working positions of every cage, skip, counter balance and kibble used.

77. Overhead clearance

In an inclined shaft the overhead clearance for a person travelling in a conveyance in such shaft shall be at least 100 millimetres and the clearance between the sides of such conveyance and the walls timber, plans or any fixture in the shaft shall be at least 100 millimetres.

78. Power source

The Manager must ensure that the source of power to a winding system is not cut-off unless it is safe to do so.

79. Winding rope requirements

(1) Ropes used for winding purposes must be in good condition and of good quality and manufacture. Every rope used for winding purposes in shafts or winzes over thirty metres in depth, measured on the incline or vertical as the case may be, shall be made of steel wire, and the wires used in the construction of the ropes shall be of size suitable for use with the sheaves and drums fitted.

(2) The connection between rope and bucket, kibble or other means of conveyance must be of such a nature that no accidental disconnection can take place.

(3) A person must not use splicing for rope attachment without the approval of the Inspector.

(4) A capped rope shall not be used with any winding system unless the capping is of approved design and has a minimum factor of safety not less than that required of the rope.

(5) A rope that has been recapped shall not be used with any winding system unless on the last occasion on which it was recapped the capping was moved a distance of not less than 150 millimetres along the rope towards its other end.

(6) A winding, balance or guide rope shall be withdrawn from service when—

(a) the rope appears to the Inspector or to the Manager to be unsafe for the use to which it is subjected; or

(b) the rope life, as determined by the method approved by the Inspector after considering operating conditions and performance, has expired.

80. Stop devices to be used

(1) One or more stop blocks or other devices of suitable design and strength shall be provided and used —

(a) At the head of every inclined tramway to prevent runaways of full or empty trucks; and

(b) At the brace level and the plats of every shaft where rails are used to move cars, trucks or other conveyances into and out of the cage.

(2) Where a winding system is used for raising or lowering in a shaft having a depth exceeding 100 metres, the winding engine shall be provided with a stop switch for the purpose of stopping the winding engine and such switch shall be clearly marked and within easy reach of the winding driver.

81. Open hook to be used

Except as directed or allowed otherwise an open hook shall not be used with any winding rope. A hook or shackle shall not be attached to any winding rope unless the hook or shackle has been approved by the Inspector for that purpose.

82. Chain requirements

(1) A chain must not be used in a shaft *in lieu* of a winding rope when persons are being raised or lowered, but short coupling chains may be used to attach the shaft conveyance to the rope in a vertical shaft.

(2) The Manager must ensure that coupling chains which are attached to a shaft conveyance—

(a) shall be at least two in number;

(b) have identical dimensions;

(c) are parallel and vertical;

(d) have a combined factor of safety of not less than 20, however many chains are used.

83. Control of winding engines

(1) Where a winding engine is being used for the carriage of persons while operating under push-button control, it shall be incapable of motion unless all shaft gates and cage doors used with that winding system are properly closed, except that a cage may be inched from deck to deck with the shaft and cage gates open.

(2) Where a winding system is being used for loading are open, the carriage of material and shaft gates at a landing are open, the winding engine shall, when within 10 metres of that landing, be capable of inching motion only.

84. Windlasses, whims and whimps

Windlass, whims and whimps in use at shaft and winzes shall be provided with a stopper, awl or some other reliable holder, and care must be taken that the hooking on and off of buckets, kibbles or other receptacles is done without danger to the workmen.

85. Drum brakes

Where winding is effected by means of an engine an adequate brake shall be attached to every drum and kept in proper working order; and—

(a) such brake must be so arranged that, whether the engine is at work or at rest, it can be easily and safely manipulated by the engine driver when standing at the levers controlling the engine;

(b) spare parts, brake blocks, etc., shall always be kept in stock at the mine;

(c) the Inspector shall at all times have the power to order or conduct a test of the efficiency of all brakes;

(d) lowering from an unclutched drum is not allowed.

86. Materials to be secured

When tools, wood or other materials are to be let down or hoisted up any shaft, if projecting above the top of the bucket, kibble or other vehicle shall be securely fastened to the winding rope or to the bow of the receptacle.

87. Shaft sinking

(1) In sinking shafts the bucket or other means of conveyance shall only be filled up to the level of the brim.

(2) Before the bucket or other means of conveyance leaves the top or bottom of the shaft it shall be steadied under the supervision of the workman in charge.

(3) In no case shall any cage, skip, kibble or other receptacle be directly lowered to the bottom of a shaft when men are working there, but must be stopped at least five meters above the bottom until the signal to further lower it has been given to shafts in which the sinkers are not more than sixteen metres from the banksman.

(4) Ladder ways shall be provided in all shafts in the course of sinking to within such a distance of the bottom as well secure them from damage in blasting, and from the ends of such ladder ways chain or chain ladders shall be extended to the bottom of the shaft.

(5) When a shaft has no separate ladderway under which those engaged in sinking may find shelter during the winding of rock materials or water, sufficient protection shall be provided by a suitable covering.

(6) Should a working shaft be sunk deeper whilst ordinary winding is going on, the men employed at the bottom of such shaft shall be securely protected by a cover overhead.

(7) In vertical shafts where cages are used the landing place of each winding compartment shall be provided with a self-closing cover, gate or gates.

88. Shaft requirements

(1) Vertical shafts exceeding thirty metres in depth shall be provided with guides for kibbles.

(2) At every shaft station where it is necessary for workmen to pass to pass from one side of the shaft to another provision shall be made for them to do so without entering or crossing a winding compartment; such passage shall be securely fenced off from moving parts of machinery.

(3) Entering or crossing a winding compartment of a shaft is prohibited, except to ascend or descend and for purposes of repairs:

Provided that this requirement shall not apply to persons employed in timbering vertical shafts whilst sinking operations are being carried on.

(4) No winding shall be permitted whilst repairs in the winding compartment are being made beyond what is necessary for such repairs. This shall not prohibit persons from working below the lowest points from which winding is taking place:

Provided that such person are securely protected by a suitable covering. The word "repairs" mentioned in this regulation shall be taken to include the oiling of rollers and pulleys.

89. Winding signals

(1) Every winding shaft if exceeding sixteen metres in depth shall be provided with some efficient means of interchanging distinct and definite signals between the top of the shaft and the lowest level from which winding is carried on and the various intermediate stations for the time being in use.

(2) The workmen at the bottom of a shaft where work is carried on shall be provided with efficient means of interchanging distinct signals with the surface.

(3) Where one or more compartments in a shaft are set apart for the hauling of persons, in addition to the system of signals between top and bottom of the shaft provided for under subregulations (1) and (2) a separate set of signals must be provided so that signals may be exchanged between the shaft top and the engine driver.

(4) The engine driver is prohibited from starting his engine before he has received a distinct signal, and has, before beginning to wind, given a return signal, repeating the signal as received by him.

(5) Only person duly authorised by the Manager or mine overseer are allowed to give a signal.

(6) In signalling the following shaft signals shall be used - knocks or rings—

1 - Raise, when engine at rest

1 - Stop, when engine in motion

2 - Lower

3 - Men about to ascend or descend

3 - In reply, men may enter cage or other conveyance

In no case shall any person enter a cage or other conveyance until the back signal "3" has been received.

(7) The engine driver when receiving the signal "1" or "2" signifying to raise or lower any person, must wait at least ten seconds before starting to wind.

(8) Special signals in addition to the above may used at any mine provided they are easily distinguishable by their sound or otherwise from the foregoing code, and do not interfere with it in any way.

(9) The aforementioned code of signals, as well as any special signals that may be in use on a mine shall be painted on a board or enameled plate, not less than fifty centimetres by fifty centimetres in the form of a distinctly legible notice in Kiswahili and in English, and shall be posted up in the engine room, and at the top of the shaft and at all shaft stations for the time being in use.

(10) In shaft sinking special care must be taken that the engine driver is notified by a pre-arranged signal when blasting is about to take place, so that he may be ready instantly to raise persons employed in blasting on receipt of the final signal.

90. Raising or lowering of persons

In addition to conditions of regulation 71 permission to operate a winding system for raising or lowering persons shall not be granted unless the foregoing paragraph have been complied with so far as they are applicable and unless the following special conditions are observed—

(a) by actual test it shall be proved to the satisfaction of the Chief Inspector—

(i) that the winding engine running at various speeds with light and heavy loads, can be readily slowed and stopped, and after stopping can be immediately started again in either direction by the engine driver;

(ii) that each winding engine can lift from bottom to top of shaft the maximum unbalanced load on one drum;

(iii) that each winding drum, unclutched from the engine, can be maintained in a position of rest with no more slipping than 30 centimetres, by the unaided effort of its own brake or brakes when bearing its maximum static load and when this load is increased to the extent or doubling the authorised load of the cage or skip:

Provided that in estimating the authorised load seventy-five kilograms weight shall be allotted for each person;

(iv) that in the case of a hoist, where no part of the rope is rigidly fixed to the drum, there shall be no dangerous slipping of the rope on the drum under any possible working condition;

(b) the headgear shall be carried without obstruction to the skip way, to such a height as to allow a clearance of at least 8 metres in which the cage or similar contrivance can travel freely in case of an overwind. The Commissioner may grant permission for headgear which were erected previous to these Regulations coming into force and which do not comply with the above conditions, to be used;

(c) winding ropes shall be made of steel of the best quality and manufacture, free from any defect and the wires used in the construction of the ropes shall be of sizes suitable for use with the sheaves and drums fitted. Winding ropes shall not be used for raising or lowering persons when, owing to deterioration, the breaking strain has become reduced to below six times the maximum working load. The working load includes the weight of rope in the shaft at the lowest working point;

(d) at the request of the Inspector an adequate sample from the end of any winding rope shall be supplied to him also such data as may be required regarding manufacture, dimensions and class of steel;

(e) winding ropes newly put on, as also connecting attachments between the rope and the cage, skip or other conveyance, shall be carefully examined and properly tested as to their working strength by some competent and reliable person authorised by the Manager, and shall be used for the ordinary transport of persons in shafts only after having run two complete trips up and down the working portion of the shaft, the cage or skip being loaded to the full authorised extent. The result of the above examination shall be immediately recorded in a book which shall always be accessible to the Inspector;

(f) cages, skips or other conveyances used in vertical or steeply inclined shafts shall have a proper roof or cover and shall have proper safety catches where applicable;

(g) cage entrance shall be fitted with doors so as to prevent any portion of the body of any person riding therein from accidentally coming into contact with the timbering or sides of the shaft and the doors must be constructed in such a manner that they cannot open of themselves;

(h) there shall be on the drum of the winding engine such flanges or horns, and also, if the drum is conical or spiral, such other appliances as may be sufficient to prevent the rope from slipping;

(i) there shall be not less than three rounds of rope upon the drum when the cage or other conveyance is at the lowest point of the shaft from which hoisting is going on. The end of the rope shall where applicable be properly fastened round an arm of the shaft of the drum;

(j) when it is considered necessary by the Inspector every engine used in raising or lowering person shall be provided with a reliable depth indicator, in addition to any marks on the rope, which will clearly and accurately show to the engine driver at his driving seat at all times the position of the cage or other conveyance in the shaft and which will, moreover, in shafts exceeding 100 metres in depth ring a bell in the engine room when the conveyance is 20 metres from the top landing place;

(k) where difference of gradient in a shaft necessitates reduction of winding speed such position shall be plainly marked on the depth indicator;

(l) a reliable speed indicator must be attached to the winding engine if considered necessary by the Inspector;

(m) when possible some suitable automatic device to prevent over-winding of cages or other conveyances shall be provided at every winding shaft or winding engine;

(n) if the winding system cannot be provided with some automatic contrivance to prevent overwinding, then the cage or other conveyance, when men are being raised, shall not be wound up at a speed exceeding 75 metres per minute, after the cage or other conveyance has reached a point in the shaft to be fixed by the Inspector.

91. Exemption on manual winding

Prospecting shafts where winding is done by manual or animal power may be exempted from the provisions of regulations 84, 87, 88(1), 89 and 90 by the Inspector.

92. Rules for winding in shafts

Where winding in shafts in accordance with regulation 90 is permitted, the following rules must be strictly observed—

(a) one, or more than one, competent person, specially authorised by the Manager for the purpose, and whose name or names must be registered by him in a record book, such book to be termed the record book, shall carefully examine—

(i) at least once each day the aerial gear, the winding ropes, and their attachments to the cages and drum, or buckets, the brakes, depth indicators, the cages and their safety catches, the pulley wheels and all and every external part of the winding arrangements upon the proper working of which life depends;

(ii) at least once a week the guides and the winding compartments generally, the signalling arrangements and the external parts of the winding engine;

(iii) at least once a month the structure of the rope for the purpose of discovering the amount of deterioration of same. For the purpose of this examination the rope must be thoroughly cleaned at selected places;

(iv) at least once a year the winding engine as to the working condition of the internal parts a true report of the result of every examination above mentioned shall be recorded without delay in the record book which must be kept at the mine especially for the purpose, and shall be signed by the person who made the inscription. The record book shall at all times be open for the inspection of the Inspector. Should, as a result of such examination, any weakness or defect be discovered by which life or limb may be endangered, the defect shall be immediately reported to the Manager and remedied, and no person shall be lowered or raised until the defect is made good;

(b) as soon as the rope becomes defective it shall no longer be used for the transport of persons unless the damaged part is at the end and is cut off;

(c) at every mine where persons are raised or lowered, at least one spare rope of the description as provided for in regulation 90(c) shall always be kept in reserve ready for use;

(d) special instructions shall be issued by the Manager forbidding access to signal wires to any persons other than those in charge of them, and special care shall be taken to guard against the signal wires being accidentally put into operation;

(e) no one is allowed to ascend or descend a shaft on the side or bow of the skip, or on the top of a loaded truck or skip, unless the permission of the Inspector has been previously obtained;

(f) riding in partially loaded cages, skips or buckets is only permitted to persons in charge of underground works, sinkers and to workmen employed to do repairs in the shafts. The same applies to unprotected cages, skip or buckets in vertical or steeply inclined shafts;

(g) in no case shall a greater number of person ride in any cage or other conveyance at any time than can be conveniently accommodated therein with safety;

(h) a person travelling in a cage or other conveyance is not allowed to change place therein whilst the conveyance is in motion;

(i) after any stoppage of winding for repairs or for any other purpose exceeding two hour's duration each cage or other conveyance, before any person is allowed to ride therein, must be run a complete trip up and down the working portion of the shaft at least once with a view of ensuring that everything is in good working order;

(j) when winding persons, the engine driver shall in no case be allowed to run the engine at a greater speed than that fixed upon when the permission to use the engine for the purpose was granted, and he shall take care that shocks in starting and bringing the engine to rest are avoided and that cages or other conveyances are set down gently at stopping places;

(k) at every shaft or shaft station where person are regularly allowed to ride, signals for raising or lowering a person or persons shall only be given by a qualified banksman who shall be responsible for the observance of the rules referred to in paragraphs (e), (f), (g) and (c) hereof and that the correct signals are given and the doors and cover of the cages properly fixed.

93. Underground tramways

The following regulations shall apply to underground tramways—

(a) where traction is operated by machinery a signalling apparatus shall be provided by which distinct signals can be given to the engine driver from any part of the tramway;

(b) where traction is operated by gravity and the inclined plane exceeds fifty metres in length some efficient means of communicating distinct signals between the stopping places shall be provided;

(c) in either of the cases (a) or (b) where persons are allowed to travel, places of refuge (manholes) at intervals of not more than 16 metres shall be provided if there is not ample room for a person to stand between the moving trucks and the wall. Every place of refuge shall be constantly kept clear.

Part VII – Ventilation, gases and dust (regs 94-110)

94. Blowpipes

(1) All blow pipes using compressed air shall be fitted with a water connection.

(2) Inspector may prohibit the use of any blow pipe or any type of blow pipe if, in his opinion, it does not afford adequate protection during use.

(3) No person shall use or cause to be used a blow pipe for cleaning out holes or for cleaning out any truck or skip without a sufficiency of water effectively to allay any dust created during the operation.

95. Wetting down

(1) All broken rock and coal in the underground workings of a mine shall be wetted-down before removal and kept wet during removal from the working place:

Provided that, if the structure or working conditions of the mine are such that due observance of this provision is impracticable, an Inspector may grant written exemption from the operation of this subregulation for such period as he may deem necessary.

(2) At the start of each shift before work commences the roof, walls and floor for a distance of at least eight metres from the place where work is to be carried out shall be thoroughly wetted-down:

Provided that an Inspector may grant written exemption from the operation of this subregulation for such period as he may deem necessary.

(3) If an Inspector refuses to grant exemption in terms of subregulations (1) and (2), an appeal against such refusal may be made to the Commissioner whose decision shall be final.

96. Machine drilling not to done dry

No person shall use or cause or permit to be used any machine drill in the underground workings of any mine unless—

(a) an adequate supply of water flows through the drill steel; and

(b) the working pressure of the water supply at the machine drill is maintained at one hundred kilopascals or more;

(c) where the structure of working conditions of a mine are such that due observance of the provisions of paragraph (a) is impracticable, an Inspector may grant written exemption from the operation of paragraph (a) for such period as he may deem necessary, and, if the Inspector refuses to grant such exemption an appeal against such refusal may be made to the Commissioner whose decision shall be final.

97. International water-feeds for machine drills

(1) No person shall use or cause or permit to be used any percussion-machine drill fitted with an internal waterfeed unless such machine is—

(a) provided with front head release ports;

(b) of an approved design; and

(c) fitted with a water tube of such length that, when the machine is not operating and the drill steel is inserted into the chuck to its fullest extent, the water tube—

(i) enters the axial hole in the steel shank for a distance of at least twenty five millimetres; or

(ii) falls short of the shank of the drill steel by not less than six millimetres and not more than twenty five millimetres and is perfectly in line with the axial hole of the drill steel.

(2) Every water-tube referred to in subregulation (1) shall be maintained in good order so as to comply with the requirements of that subregulation.

(3) The Commissioner may permit, in writing, the use of any particular drill or any type of drill which does not comply with the provisions of subregulation (1) if he is satisfied that no danger to health would result.

(4) The Commissioner may prohibit, in writing, the use of any particular percussion-machine drill or any type of percussion-machine drill if, in his opinion, the use of such drill or type of drill might endanger health.

(5) No person shall block or otherwise obstruct any of the front head release ports of a machine drill provided in accordance with this section and no person shall operate or cause or permit the operation of any such drill if the front head release ports so provided are partially or totally blocked or otherwise obstructed.

(6) Water to be used for machine drilling or wetting-down shall be clear and odourless.

98. Waterblasts

(1) Where compressed air is available, every working development end which has advanced eight metres or more shall be provided with a waterblast approved by an Inspector which shall—

(a) discharge within a distance of not more than fifteen metres of the face being advanced; and

(b) be applied so as effectively to wet the face and broken rock for at least fifteen minutes after blasting and again for a period of fifteen minutes immediately prior to entry of any person.

(2) Notwithstanding subregulation (1) the Inspector may, by notice in writing, permit the Manager of a mine to vary the provisions of paragraph (a) or (b).

(3) The waterblast referred to in subregulation (1) shall be tested daily prior to charging up and, if it is found not to be in order no further blasting shall take place until it has been repaired.

99. Ventilation

(1) As far as practicable, the ventilation air entering a mine shall be free from dust, smoke or other impurity.

(2) The workings of every part of a mine where persons are required to travel or work shall be properly ventilated to maintain safe and healthy environmental conditions for the workmen and the ventilation air shall be such that it will dilute and render harmless any inflammable or noxious gases and dust in the ambient air.

(3) No auxiliary fan shall be installed or operated underground at any place unless the quantity of air reaching it at all times is sufficient to ensure that any recirculation of air shall not prejudice the supply of adequate ventilation.

100. No work in harmful air

No person shall enter or remain in or be caused or permitted to enter or remain in any part of the workings of a mine if the air in that part contains smoke, gas, fumes or dust which is—

(a) perceptible by sight, smell or any other sense; and

(b) harmful to persons,

unless he is wearing effective apparatus to prevent the inhalation of such smoke, gas fumes or dust.

101. Withdrawal of workmen where there is danger from gas

(1) If at any time it is found by the person for the time being in charge of the workings of a mine or any part thereof that, by reason of inflammable or noxious gases present in the workings of a mine or any part thereof, that the workings or part is dangerous every workman shall be withdrawn by him from the workings or part so found dangerous and the matter immediately reported to the Manager or official in charge who shall not allow any person to resume work therein until he has satisfied himself by personal inspection that the working place is made safe.

(2) Nothing in subregulation (1) shall be construed as applying to person employed in the presence and under the direct supervision of a competent person for the erection of brattice or for other work with a view to the clearing away inflammable or noxious gases.

(3) Every withdrawal of persons in terms of subregulation (1) shall be recorded in ink, in a book provided by the Manager, by the person for the time being in charge of the working place or such part thereof.

102. Action on exposure to harmful environment

(1) If at any time a miner in charge or a blasting certificate holder becomes aware of the fact that a person has been exposed to conditions arising from excessive amounts of harmful smoke, gas, fumes or dust or from harmful temperatures, he shall—

(a) take such steps as may be necessary immediately to remove such person from such exposure; and

(b) ensure that the appropriate official or the Manager is informed without delay of the circumstances of such exposure.

(2) A Manager or any other official receiving information of any person's exposure to conditions referred to in subregulation (1) shall immediately take all further steps necessary to—

(a) ensure the safety and health of that person and of any other person who may subsequently be so exposed; and

(b) terminates and prevent the recurrence of such conditions.

(3) Any action or steps taken in terms of subregulation (1) and (2) shall be recorded in ink in the book, which book shall at all times be available for inspection by an Inspector.

103. Permissible quantities of gas and dust

(1) In the general body of the air where persons are required to work or travel under normal working conditions—

(a) the amount of carbon dioxide shall not exceed five thousand parts per million (0.5 *per centum*) of air by volume;

(b) the amount of carbon monoxide shall not exceed one hundred parts per million (0.01 *per centum*) of air by volume;

(c) the amount of oxides of nitrogen shall not exceed five parts per million (0.0005 *per centum*) of air by volume;

(d) the amount of hydrogen sulphide shall not exceed twenty parts per million (0.002 *per centum*) of air by volume;

(e) the amount of the ammonia shall not exceed fifty parts per million (0.005 *per centum*) of air by volume;

(f) the amount of inflammable gas shall be insufficient to show a distinct gas cap on the reduced flame of an approved flame safety lamp or to give a reading of one comma two five *per centum* (1.25%) on an approved methanometer;

(g) the concentration of noxious dust shall not exceed such standard as may from time to time be specified by the Commissioner.

(2) In general body of the air where persons are required to work or travel under normal working conditions—

(a) the maximum permissible quantity of chrysotile asbestos dust shall be two fibres per millilitre per hour period;

(b) in this subregulation—

"fibre" means the fibre of chrysotile asbestos dust measuring more than five micrometres in length and less than three micrometres in diameter and having a length diameter ratio of at least 3:1.

104. Precautions against harmful dust

(1) Where rock, ore, coal or other mineral or mineral compound is reduced in size, screened, moved, handled or otherwise subjected to any process which may produce dust harmful to persons—

(a) the liberation of such dust into the atmosphere shall be effectively controlled by the use of water or other dust allaying agent or by a dust extraction system and the Manager shall supply and cause to be used appliances to prevent the breathing of dust; and

(b) every building in which any of these process takes place shall be adequately ventilated and the floor and other surfaces at any place, as well as machinery, shall be regularly cleaned so as to prevent the accumulation of such dust.

(2) Every drill sharpening shop or other workshop necessary and incidental to the sharpening of drill and any other building or shed where harmful dust may be produced shall be kept clean and adequately ventilated and the liberation of such dust into the atmosphere effectively controlled by use of water or other dust allaying agent or by a dust extraction system.

(3) Where sand blasting is done, approved protective breathing equipment shall be worn by every person exposed or likely to be exposed to the dust.

(4) Where an Inspector is satisfied that any mining operation upon any mine has caused or is likely to cause the presence of dust in such quantity as may be injurious to health he may, in writing, direct the Manager, within such period as shall be specified by the Inspector, to install apparatus for the prevention or abatement of such dust to the satisfaction of the Inspector.

(5) Without derogation from the responsibility of the Manager, such direction shall be deemed to be a direction to the person actually carrying on the business of mining upon the mining location concerned, whether he is the holder or the lessee or assignee of the rights of such holder.

105. Internal combustion engines underground

(1) Except as provided for in subregulation (8), no internal combustion engine, other than a mobile diesel engine unit, shall be used underground in any mine.

(2) No diesel engine shall be used underground—

(a) in any mine unless there is sufficient ventilation to render harmless the exhaust gases produced;

(b) in any fiery mine or in any other mine in the workings of which there may be a risk of such diesel engine igniting gas or coal dust unless—

(i) it is of an approved design and construction;

(ii) its use has been permitted in writing by the Commissioner;

(iii) it is used in accordance with such conditions and subject to such restrictions as the Commissioner may specify in writing.

(3) Except where otherwise authorised by the Chief Inspector, every diesel engine used underground shall be provided with means whereby the air entering the engine is cleaned the exhaust gases before being expelled are cooled, the concentration of toxic gases in the exhaust gases reduced and the emission of flames or sparks prevented, and those means shall be maintained in an effective condition.

(4) Where a diesel engine is used underground, samples shall be taken—

(a) at intervals not exceeding one month, of the general body of the air, while the engine is running, at representative places and times laid down by the Manager; and

(b) at intervals not exceeding three months, of gas emitted from the exhaust of the engine, both when the engine is developing maximum power and when it is idling.

(5) The percentage by volume of carbon monoxide or oxide of nitrogen present in each sample taken for the purposes of subregulation shall be determined and recorded in ink in a book provided by the Manager. This book shall be available at all times for inspection by the Inspector.

(6) The operation of a diesel engine underground shall be discontinued until conditions have been remedied—

(a) if the air at any place where it is being used is found to contain more than one hundred parts of carbon monoxide or five parts of oxides of nitrogen per million by volume; or

(b) if the exhaust gases of the engine are found to contain more than two thousand parts of carbon monoxide or one thousand parts of oxide of nitrogen per million by volume; and

(c) if the engine is found to have any defect which may cause danger to persons.

(7) The engine of a diesel-powered unit underground shall not be kept running idle except while being tested or during brief halts while in use.

(8) Where a diesel engine other than a mobile diesel engine is required to be used underground in a mine it shall only be used with the written approval of the Chief Inspector.

(9) The application for approval under subregulation (8) shall be in writing and shall specify—

(a) the make, type and power output of the engine;

(b) the fittings to be provided on the engine including devices for conditioning or treating exhaust gases;

(c) the places where and the purposes for which the engine is to be used; and

(d) such other terms and conditions as the Chief Inspector may stipulate.

106. External combustion engine not to be used underground

An external combustion engine shall not be used underground, whether as a prime mover, pressure generator, steam cleaner or for any other purpose except with the prior approval of the Chief Inspector.

107. Delivery and storage of diesel

(1) Diesel engine fuel shall be delivered underground in such manner that no spillage can take place during delivery.

(2) When diesel engine fuel is piped underground, the pipes shall be drained each time after use.

(3) Diesel engine fuel shall be stored underground only in robust closed containers which do not leak.

(4) Except with the written permission of the Inspector, the quantity of diesel engine fuel stored underground shall not exceed the estimated consumption for three days.

108. Requirements for underground filling station

(1) Every underground filling station where diesel-powered units are refueled shall—

(a) be adequately ventilated; and

(b) be impervious of non-inflammable materials and have an impervious concrete floor which at all times shall be kept clean.

(2) Refuelling of diesel-powered mobile units underground shall be carried out at a properly established filling station complying with the provisions of subregulation (1).

(3) Equipment for extinguishing fire shall be kept at every place where diesel engines are refueled and every diesel mobile unit used underground shall be equipped with suitable and adequate means for extinguishing fires.

(4) No unauthorised person shall enter any filling station and no person shall smoke or use an open light in the vicinity of any filling station.

109. Repair of diesel powered unit

Every station used for servicing or repairing a diesel-powered unit underground shall be—

(a) adequately ventilated and be of sufficient design to permit free movement of vehicles and persons;

(b) constructed of non-inflammable materials and have an impervious concrete floor;

(c) provided with safe and suitable facilities for inspecting the unit from below;

(d) provided with equipment for extinguishing fire;

(e) kept free from spillage and waste materials.

110. Ventilation plans to be kept

(1) At every mine in which more than twenty persons are at any one time employed underground, a tracing or print taken from an underground plan to a scale of 1:250, 1:500, 1:1000, with the written permission of an Inspector, from a plan drawn to a scale of 1:5000 shall be kept and on it shall be shown the ventilating districts, the direction of air currents, the quantity of air circulating in each ventilating district and the position of each permanent fan, door, regulations, crossing, stopping, telephone and any explosives distribution stores.

(2) The tracing or print required by subregulation (1) shall at all times be corrected to within, at most three months from its date, and, in the case of a coal mine or a fiery mine, a print shall be submitted to the Inspector at intervals not exceeding three months.

(3) An Inspector may grant written exemption from the provisions of this regulation in respect of any mine, to such extent and subject to such conditions as he may specify therein.

(4) Any applicant for exemption from the provisions of this section who is aggrieved by the decision of the Inspector on his application may appeal to the Commissioner whose decision shall be final.

Part VIII – Protection in working places (regs 111-134)

111. Entry in abandoned workings

(1) Where it is necessary to enter abandoned, disused or discontinued workings, no person shall enter or be caused or permitted to enter such workings or any part thereof until an examination has been carried out by a competent person and it has been found that the safety of persons will not be

endangered by the presence therein of noxious or inflammable gases or an atmosphere deficient in oxygen, a dangerous accumulation of water or any other dangerous conditions.

(2) Every entrance abandoned, disused or discontinued workings which contain or are likely to contain noxious or inflammable gases or an atmosphere deficient in oxygen or a dangerous accumulation of water shall—

(a) be kept securely fenced across its whole width to prevent unintentional access of persons to such workings and marked with "No entry" signs; or

(b) if the Inspector so directs, be sealed by a wall or door of a design and construction approved by the Inspector.

(3) Every entrance to every vertical or steeply inclined shaft, winze, sump, rockpass or other dangerous excavations shall be kept adequately closed by a fence, barrier, door or gate or shall be kept adequately covered so as to prevent persons having unintentional access to or accidentally slipping or falling into such excavation.

(4) No person, other than the Manager or a person authorised by him, shall cross or open any fence, barrier, gate wall, door or cover provided for protection in workings—

(a) unless he is a miner in charge or other competent person in charge; or

(b) until he has received definite instructions or permission to do so from the miner in charge or other competent person in charge.

(5) The miner or other competent person in charge shall not cross or open or cause or permit any person to cross or open any fence, barrier gate, wall, door or cover provided for protection in workings except for the purpose of conducting repairs or other necessary operations and then only if effective precautions for the safety of persons are taken.

112. Mine opening to be kept safe

All shafts, drives, raises, winzes, ramps, stopes and other workings of any kind which are in use for travel or work in connection with the workings of a mine shall be made and kept safe for persons in the mine and, except for the purpose of examining or repairing or making safe, no person shall travel or work or be caused or permitted to travel or work in any part of such workings until it is made safe.

113. Working place to be made safe before entry

(1) No person, other than the holder of a blasting certificate shall, either at the beginning of a shift or after blasting, enter a working place until he has received definite instructions or permission to do so from the miner or blasting certificate holder in charge who for the time being is responsible for the safety of such place.

(2) The miner or blasting certificate holder in charge, whose responsibility is to examine or repair or make safe any working place at the commencement of his shift, shall take all reasonable precautions to ensure that any person assisting him is safeguarded against falls of ground and other dangers while carrying out such work.

(3) If at any time, working place or part thereof becomes or is found to be unsafe during a shift, the miner or blasting certificate holder in charge shall take all reasonable measures for making it safe and for safeguarding every person in the working place against such danger as may have arisen.

(4) In making safe a working place the miner or blasting certificate holder in charge shall remove or cause to be removed all dangerous, loose or loosened rock or ground, in which work he may be assisted by persons working under his personal supervision and control.

114. Entry procedures during shaft sinking

(1) When, at a mine, a shaft or steeply inclined wine is being sunk—

(a) the miner or blasting certificate holder in charge shall, at blasting time, submit to an official for a counter-dated sketch of the round to be blasted;

(b) an official to whom a sketch has been submit under paragraph (a) shall at the commencement of the cleaning shift, pass the sketch to person in charge of planning operations, shall—

(i) endorse and date the sketch in ink evidence of its receipt;

(ii) mark thereon in ink the position of any misfired holes located during cleaning operations; and

(iii) before the commencement of following shift, return the sketch the miner or blasting certificate holder in charge of drilling operations who shall endorse a date on it in ink as evidence of receipt.

(2) The sketch referred to in subregulation (1)(b) shall be retained at the mine for a period of not less than seven days:

Provided that where sinking operations have be suspended temporarily, the sketch shall be retained for such longer period as will satisfy the requirements of paragraph (a) and (b) of subregulation (1).

115. Protection against falling objects

(1) No loose timber, rock, tools or other articles shall be placed or allowed to remain whether they can accidentally fall or be caused to fall or roll down thereby endangering the safety of persons.

(2) Every opening from vertical or steep-inclined excavation into a travelling way or working place situated on the lower or dip side of such excavation shall be kept barricaded so that persons travelling or working below or near such opening are effectively protected against danger from falling objects.

116. Systematic support to provided

(1) In the working of any mine or part of a mine where, in the opinion of an Inspector, the roof, hanging or side walls are of a nature requiring systematic support, he may give notice to that effect to the Manager who, in consultation with the Inspector, shall specify the support to be provided and the system according to which it shall be placed.

(2) The Manager must ensure that all persons concerned are made aware of such system and that notices setting out its specifications are posted up at suitable places where they can conveniently be read by such persons.

(3) Any person who fails to comply with specifications of such system referred under subregulation (1) shall be guilty of an offence.

(4) If, in the opinion of the Inspector, the method of supporting the roof, hanging and side walls in the workings of any mine or part of a mine is unsafe, either by reason of the distances between supports being excessive or for any other reason he may, by notice, in writing, require the Manager to modify the method.

(5) Where the roof or hanging wall necessitates it, props shall be provided with the headboards or other suitable means shall be provided to present an adequate bearing surface.

117. Ore and waste passes to be secured

Every main ore pass or waste pass, past which any person may walk, shall be provided with either—

(a) an adequate cover which shall be closed at all times, other than during tipping, blasting or repair operations; or

(b) a walk-way on the opposite side to the pass and adequate gates or barriers which, with such walk-way, shall enclose the area around the pass;

Provided that such gates may be opened during tipping operations and, when so opened, such gates shall not permit room for any person to accidentally enter the tipping area.

118. Bearer, decking and anchorage to be secured

Every bearer, decking and anchorage in any shaft, raise, winze or other opening in or over which a platform is installed shall be adequately secured and, where by virtue of the nature of the mining operations the decking is required to be frequently removed, the decking shall be so securely installed as to ensure the safety of any person working on or passing over such platform:

Provided that where the removal of any part thereof is necessary for the purpose of use or repair, adequate precautions shall be taken to ensure the safety of persons working thereat.

119. Lifeline to be used

(1) Subject to subregulations (3) and (4), every person, while working on a mine in a place where there is a danger of injury through falling, shall wear a safety chain or like device attached by a lifeline to secure anchorage so as to provide adequate protection from such danger.

(2) Any safety chain or like device and lifeline referred to in subregulation (1) shall be maintained in good order and condition.

(3) An Inspector may prohibit the use of any safety chain or like device or life line if, in his opinion, it does not afford adequate protection.

(4) The use of lifeline as required by subregulation (1) shall not be compulsory in the case of persons who are engaged in installing or repairing equipment in a vertical shaft or winze or any other work if the Manager or an official has given permission to dispense with such use after having satisfied himself that—

(a) the use of lifeline by the persons concerned would be impracticable and would impede such persons in the safe performance of such work;

(b) such persons have had the training and experience necessary to carry out such work safely;

(c) any such person when engaged in such work and not secured by a lifelines is under the immediate supervision of a competent person.

(5) No person shall enter or be caused or permitted to enter an accumulation of water in the workings of a mine, other than an accumulation known to be insignificant, unless he is secured by a lifeline or wears a life-jacket.

120. Conditions for sliping

(1) At any mine where any shaft, raise or winze directly connected to any other mine working and where such shaft, raise or winze is being enlarged by sliping, the following conditions shall apply—

(a) where no box is installed, there shall be provided at the lowest lashing point of such shaft or winze an excavation of suitable size capable of accommodating the greatest amount of rock broken in any one blast during sliping operations so as to prevent any possibility of closure of the bottom of such shaft, raise or winze;

(b) no sliping holes shall be blasted until it has been established beyond doubt that the requirement of subregulation (1) has been complied with;

(c) No sliping hole shall be blasted until it has been established beyond doubt that the unchipped portion of such shaft, raise or winze is free from any obstruction likely to cause a hang-up or build-up of broken rock;

(d) in the event of any known or suspected hang-up or build-up of rock, work at the lowest lashing point of such shaft, raise or winze shall cease forthwith and every person at such point shall be withdrawn to a place of safety and no person shall re-enter the danger area for any purpose whatsoever until it has been established beyond doubt that there is no progressive build-up of water above the blockage;

(e) in the event of any build-up of water above the blockage, immediate steps shall be taken to remove such water from above;

(f) after removal of such water from above the blockage, a competent person or persons may enter the lowest lashing point for the sole purpose of releasing such hang-up or build-up, and all reasonable precautions shall be taken to ensure his or their safety;

(g) in the event of any such known or suspected hang-up or build-up of rock work at the slipping face within such shaft, raise or winze shall cease forthwith until such time as the hang-up or build-up has been released;

(h) there shall be provided a suitable means of communication whereby the person in charge at the top of such shaft, raise or winze can communicate directly with the person in charge at the lowest lashing point of such shaft, raise or winze;

(i) no operation shall take place at the lowest lashing point of such shaft, raise or winze until all lashing has been completed at the sliping face of such shaft, raise or winze; precautions shall be taken to prevent the inflow of water other than drilling water, into such shaft, raise or winze from any source around the mouth of such shaft, raise or winze;

(k) precautions shall be taken to ensure that the inflow of any water, from any fissure within the sliped or unsliped portion of such shaft, raise or winze, causes no danger to any person.

[please note: numbering as in original.]

121. Complaints to be investigated

(1) If any person complains that his working place is dangerous, the miner or competent person in charge shall not cause him or any other person to remain or work in the place complained of until he has made such place safe or has had it examined by an official and has obtained the concurrence of that official as to the safety of such place.

(2) If any person has reason to believe that any part of the mine in which he is working or through which he has to travel to get to his work is in a dangerous condition, he shall at once inform the miner or competent person in charge who shall immediately take any necessary steps to remove the danger if such danger exists.

122. Complaints to be recorded

(1) A book or books shall be kept at or near each shaft, or in some other appropriate place, in which any person shall record in ink any complaint with regard to the safe working of the mine.

(2) Every book on safety complaints shall be inspected and initialled in ink daily by the official in charge and at least once a month by the Manager and shall be available at any time for inspect on by the Inspector.

123. Precautions during development of working

(1) In every working in a mine approaching a place likely to contain a dangerous accumulation of mud, water or gas, boreholes shall be kept in advance of the face and at such an angle from the face as necessary to ensure safety.

(2) Where underground workings are approaching each other and—

(a) the distance apart has decreased to ten metres, work on one face shall cease during the blasting operations on the other and where the distance apart has decreased to five metres, all work on one face shall cease:

Provided that the provisions of this paragraph shall not apply to board and pillar workings where regular rectangular pillars are formed of a size not greater than twenty-five metres in any direction;

(b) where one working is within five metres of the other working, the holing point and, where applicable, workings adjacent to the holing point sufficient to ensure safety shall be examined and made safe by the holder of a valid blasting certificate, who shall record the result of the examination in ink in a book kept at a place determined by the Manager concerned.

(3) Entries in the book referred to in subregulation (2) of regulation 122 shall be—

(a) countersigned in ink by every official who is directly responsible for the working section in which the examination concerned was carried out; and

(b) available at all times for inspection by the Inspector.

(4) Where a Manager suspects the dangerous approach of workings in an adjoining mine, he shall, in writing notify the Inspector, who shall have the power to order cessation of such work until a survey has been carried out.

124. Manager to take precaution

(1) Notwithstanding regulation 123, the Manager shall take all reasonable precautions to ensure that every person employed in the workings of a mine is safeguarded against inundation by water or mud or a flow or rock, sand, silt or other similar material.

(2) Every drain shall be so constructed, positioned and maintained as to prevent water inadvertently entering a rockpass.

(3) Every drain and every borehole provided for the purpose of drainage shall, as far as practicable, be kept free from blockages.

(4) No person shall enter or cause or permit any person to enter a rockpass at the discharge end while it contains water, mud or rock.

(5) Any rockpass which has become blocked shall be cleared only in accordance with a procedure laid down by the Manager or an official.

125. Safety requirement when using belt conveyor

In every mine, both on surface and underground in which a belt conveyor is used—

(a) the Manager shall draw up and enforce a code of safety practice for the operation, maintenance and patrolling of the conveyor system; and

(b) suitable and adequate means for extinguishing fires shall be available for immediate use along every belt conveyor; and

(c) every belt conveyor shall be equipped with effective means for immediately stopping the conveyor or for signalling to the attendant at the driving head from readily accessible points along the conveyor; and

(d) where two or more belt conveyors are used in series, sequence interlocking shall be provided which will automatically—

(i) stop all other conveyors feeding a conveyor that has stopped; and

(ii) prevent a conveyor starting until the conveyor on which it feeds is moving.

(e) If the mine is a coal mine, the following additional requirements shall apply—

(i) every conveyor belt which is installed or used in the underground workings shall be of incombustible or fire-resistant material;

(ii) all reasonable measures shall be taken to prevent coal or coal dust accumulating on or around the moving parts of any belt where friction is likely to cause heating; and

(iii) every belt conveyor shall be equipped with a device which will stop the drive automatically should the belt break, jam or slip excessively.

126. Combustible matter not to be piled

In any underground workings, waste timber or other combustible matter shall not be piled up and permitted to decay but shall be removed to the surface as soon as practicable.

127. Requirements in surface working

(1) In any open-cast working or quarry, no person shall—

(a) undercut or permit the undercutting of any face or sidewall; or

(b) permit any face or side wall to have a vertical height of more than one comma five metres (1.5) unless such face or sidewall is terraced or sloped at an angle sufficient to ensure the safety of persons or is adequately supported:

Provided that this subregulation shall not apply where—

(i) the working or digging is done by mechanical equipment which does not expose the operator of such equipment or any other person to danger from such face or sidewall; or

(ii) having regard to the natural and physical properties and other circumstances of such face or sidewall, no fall or dislodgement of any earth or other materials is likely to occur so as to endanger persons employed there.

(2) In every open-cast working or quarry, any waste or other loose material and any stone on the surface shall be kept cleared to a distance of at least two metres from the edges of such open-cast working or quarry.

(3) In digging any trench, pit or other similar working in gravel, clay, soils, tailings, slimes, ash, debris or other such ground or deposit, no person shall—

(a) undercut or permit the undercutting of any face or sidewall; or

(b) permit any face sidewall to have a vertical height of more than one comma five metres (1.5m) unless such face or sidewall is terraced or sloped at an angle sufficient to ensure the safety of persons:

Provided that this subregulation shall not apply—

(i) where such digging is done by mechanical equipment which does not expose the operator of such equipment or any other persons to danger from the face or sidewall; or

(ii) where permission has been granted in writing by an Inspector and under such terms and conditions as may be imposed by the Inspector.

(4) At every trench, pit or other similar working, all waste and other loose material and stones on the surface shall be kept cleared to a distance of at least one metre from the edge thereof to avoid danger to any person occurring from such waste or loose material falling into such trench, pit or working.

(5) Notwithstanding subregulation (3) in every trench, pit or other similar working where any vertical face or sidewall is of weak nature, such face or sidewall shall be adequately shored up and additionally, or alternatively, effectively supported.

128. Hard hat to be worn

(1) No person shall enter or remain in or be caused or permitted to enter or remain in the workings of a mine or at any place at a mine where there is danger from failing objects unless he wears a hard hat in good condition and of an approved type.

(2) Hard hats as required under subregulation (1) shall be supplied by the Manager.

129. Footwear to be worn

(1) Every person shall wear footwear designed to provide adequate protection for the type of work or activity being performed.

(2) The footwear referred to in subregulation (1) shall be supplied by the Manager.

130. Lamps to be carried

(1) No person shall enter any underground workings unless he has in his immediate possession an operable lamp of an approved type, and such lamp shall be kept alight and within safe and easy reach of that person at all times.

(2) Every person in any unilluminated underground part of a mine shall at all, times carry the lamp required by subregulation (1) on his person and lighted.

131. Lighting to be provided

(1) Suitable and sufficient permanent lighting shall be provided and maintained at the following places underground in regular use—

(a) every established station, landing or loading place and other similar place in vertical and inclined shafts, winzes and places where the lowering or raising of persons is being carried on;

(b) every main tipping place at which any vehicle operates and every place where any vehicle is maintained;

(c) every main substation and every substation in which there is inherent danger due to bare conductors or otherwise;

(d) every room or place made to house winding and main pumping machinery in the proximity of which any person is working or moving about;

(e) every main crusher station and every main conveyor drive unit.

(2) Suitable and sufficient permanent lighting shall be provided and maintained at all places on the surface where work is regularly carried out during the hours of darkness or where normal daylight is inadequate for safe working.

(3) Notwithstanding provisions of subregulations (1) and (2) and the Manager shall provide emergency lighting in places where artificial lighting has failed.

(4) All places where persons are working or moving about in the proximity of winding, driving, pumping or other machinery shall be so lighted that the external moving parts of such machinery whilst in operation are clearly visible.

132. Lamp room to be provider

(1) There shall be provided at the surface of every mine in which portable electric lamps are used underground a separate room to be used as a lamp-room.

(2) The Manager shall ensure that—

(a) a competent person is appointed to be in charge of the lamp-room; and

(b) there is available in the lamp-room a lamp for every person proceeding underground; and

(c) the competent person in charge of the lamp-room shall ensure that no lamp is issued to a person proceeding underground unless it is in proper working order.

133. Care and maintenance of lamps

(1) A person to whom a lamp has been issued shall take reasonable steps for its care and maintenance so that it is not damaged, tampered with, destroyed or lost.

(2) If a lamp is lost, destroyed, tampered with or damaged to the knowledge of the person to whom, it was issued, he shall report the occurrence to an official of the mine as soon as practicable but not later than the end of the shift.

(3) Any person found to have tampered with or wilfully damaged a lamp shall be guilty of an offence.

134. Pillars to be maintained

(1) On the inside of the boundary-lines of every mine, continuous pillars shall be left standing, the width of which in coal mines shall be not less than fifteen metres and in metalliferous and other mines not less than six metres.

(2) No person shall mine or be caused or permitted to mine such boundary-pillars unless permission has been obtained under subregulation (3) or (4).

(3) On the joint application of the owners of the adjoining mines, an Inspector may give permission to either party to weaken, cut through or work from the respective pillars between such mines.

(4) In the absence of the joint application referred to the subregulation (3), the Chief Inspector may give permission for the partial working, weakening, or cutting through of boundary-pillars under such conditions as he may specify in writing.

(5) Any work undertaken under subregulations (3) and (4) shall be clearly shown on the underground plans.

Part IX – Outlets, ladderways and travelling ways (regs 135-143)

135. Shaft design

(1) A mine shaft shall—

(a) be of a design approved by a professional engineer registered in a mining discipline;

(b) be equipped with a means to guide each shaft conveyance and counter weight through the shaft, to prevent contact with another shaft conveyance or counterweight or with any shaft furnishing;

(c) have underwind clearances that exceed the stopping distance of any shaft conveyance when travelling at the maximum speed permitted by the hoist controls and carrying the maximum permitted load, except—

(i) during shaft sinking operations; or

(ii) when chairs are used to land a skip during loading operations;

(d) where a hoist is installed be equipped with tapered guides, or other devices approved by the Chief Inspector, located above and below the limits of regular travel of any shaft conveyance or counterweight in the event of over travel; and

(e) where a friction hoist is installed and where workers are transported in a conveyance not equipped with safety catches, safety chairs shall be installed in each compartment at the extreme limit of overwind travel; and the installation shall be so arranged so that if a conveyance or counterweight should break away from the rope as a result of overwind it would fall back the smallest practicable distance before landing on the safety chairs which, with their support, shall be designed to stop and hold a fully loaded conveyance under these conditions;

(f) be securely lined and if necessary cased, or otherwise guarded.

(2) Except when a shaft is being sunk, or during sump clearing, operations, a barrier or obstruction shall be installed in the shaft to prevent a shaft conveyance from being lowered into water in the shaft bottom.

136. Gate to be installed

(1) Except when the hoisting compartment at a shaft station is securely closed off, a substantial gate shall be installed.

(2) The gate shall be kept closed except when the shaft conveyance is being loaded or unloaded at the station and have a minimum of clearance beneath it.

(3) The approach to the shaft shall be designed and protected to prevent inadvertent entry into the shaft of an uncontrolled vehicle.

137. Counter weight compartment

Where a counterweight is used in a shaft, its compartment shall be enclosed except when the counterweight travels on guides.

138. Ingress and egress

Any underground mine shall have more than one means of ingress and egress to the persons employed underground except under special circumstances as approved by Chief Inspector.

(2) All such shafts shall be provided with a proper ladder way. When one part of a shaft is used for the ascent or descent of persons by ladders, and another part thereof is used for raising minerals or substances got in the mine, the first-mentioned part shall be cased or otherwise securely fenced off from the last-mentioned part.

139. Resting place to be provided

(1) In ladder ways exceeding twenty meters in depth and having an inclination of more than seventy degrees from the horizontal, resting places (platforms) shall be provided at convenient intervals.

(2) In vertical shafts such resting places shall be more than 10 metres distant from one another.

(3) In all ladder ways in shafts, solars shall be fixed at not more than 10 metres apart, in such a way that no two consecutive man-holes are in a vertical line.

140. Fixing of ladders

(1) Under exceptional circumstances ladders may, with the written consent of the Inspector, be fixed vertically.

(2) All ladders used in mines shall be strongly constructed and be securely fastened to the timbering or sides of the shaft, and maintained in proper repair.

(3) The fixing of ladders in travelling ways in an overhanging position is prohibited.

(4) The ladders shall project at least one metre above the mouth of the shaft and every resting place therein, or strong hand rails shall be fixed at such places.

141. Compartment to be bratticed

In vertical or steeply inclined shafts where one compartment is used as a foot travelling way it shall be securely bratticed off from the other compartments. In all other shafts the foot travelling way or ways shall be adequately railed off so as to prevent any person inadvertently entering the winding compartment.

142. Raising and lowering of persons

(1) In all mines where the raising or lowering of persons by means of machinery is prohibited, only such travelling way or ways shall be used in ascending and descending as are specially set apart for the purpose.

(2) The use of other shafts or shaft-compartments as a means of ingress or egress is permitted only to those persons who are charged with the making of inspections or repairs.

143. No carrying materials in ladder ways

Carrying tools or any loose materials up or down the ladder ways in vertical or steeply inclined shafts or winzes is prohibited, except where absolutely necessary.

Part X – Mine accidents, incidents and enquiries (regs 144-149)

144. Accidents or dangerous occurrences

(1) In the event of any accident causing loss of life or serious personal injury the Manager shall—

(a) inform the Inspector and the local trade union as soon as possible but within 16 hours of the event and within one week send a written notification to the Chief Inspector;

(b) ensure that, except for the purpose of saving life or relieving human suffering, the scene of the accident or dangerous occurrence is not disturbed without approval of the Inspector;

(c) ensure that the investigation is carried out by persons knowledgeable in the type of work involved and the representative of the local trade union; and

(d) in the event of loss of life, report to the police as soon as possible but not later than 24 hours.

(2) On completion of the investigation, the Manager shall prepare a report that—

(a) whenever possible identifies the causes of the accident;

(b) identifies any unsafe conditions, acts, or procedures which contributed in any manner to the accident;

(c) makes recommendations which may prevent similar accident; and

(d) is forwarded to the Chief Inspector, Inspector and the local trade union.

145. Notification of accidents to persons

(1) The accident to be notified for the purposes of this section shall be as follows—

(a) any mining accident involving—

(i) the death of any persons; or

(ii) an injury to any person which is likely to be fatal;

(b) any mining accident in which any person becomes unconscious from heat stroke, heat exhaustion, electric shock or the inhalation of fumes or poisonous gas;

(c) any mining accident involving an injury to any person which—

(i) incapacitates him from performing his normal or a similar occupation for a period totalling fourteen days or more; or

(ii) causes him to suffer the loss of a limb or part of a limb or to sustain a permanent disability.

(2) On the occurrence at any mine of an accident referred to in paragraph (a) or (b) of subregulation (1) the Manager shall—

(a) immediately give notice thereof to the Inspector by the quickest means available; and

(b) without delay, give written confirmation to an Inspector of such notice on the form specified in the First Schedule to these Regulations.

(3) When an accident referred to in paragraph (c) of subregulation (1) becomes notifiable for the purposes of this regulation, the Manager of the mine at which the accident occurred shall—

(a) immediately give notice thereof to an Inspector by the quickest means available; and

(b) within four days of the accident becoming notifiable, confirm such notice in writing on the form specified in the First Schedule to these Regulations.

(4) In the rise of a mining accident at a mine which involves the death of any person, the Manager shall ensure that the police are notified thereof immediately by the quickest means available.

(5) If an accident referred to in subregulation (1) occurs at a mine and involves a person engaged in mining operations on the mine but not directly employed by the mine, it shall be the duty of that person's employer to ensure that the accident is immediately reported to the Manager.

146. Notification of non-casualty accidents

Whether personal injury results or not, on the occurrence at a mine of any accident specified in the Second Schedule to these Regulations the Manager shall—

(a) immediately give notice to the Inspector by the quickest means available; and

(b) without delay, give written confirmation to the Inspector of such notice.

147. Register of accidents

(1) At every mine a register shall be kept in which there shall be recorded in ink, without delay, the particulars of all accidents at that mine which are required to be reported under regulations 144(2) or 146.

(2) The register referred to in subregulation (1) shall be available for inspection by the Inspector.

148. Inspector to investigate

(1) Notwithstanding the provisions of regulation 144(1) the Inspector shall, make an investigation of and report about an accident that has caused serious personal injury, loss of life or property, or environmental damage.

(2) The Commissioner may, if he is not satisfied with the report submitted by the Inspector under subregulation (1), order further investigation.

149. Inspectors to be protected

The Inspector conducting an investigation under regulation 148 has the protection, privileges and powers of the Commissioner of inquiry.

Part XI – Electrical apparatus, wiring and lighting (regs 150-175)

150. Application of safety code

(1) Without derogation from the provision of this Part, the installation of any electrical cable switchgear, transformer and electrical apparatus of any kind at any mine shall generally conform to the Safety Code for the electrical wiring of premises where it is applicable.

(2) In the event of any inconsistency in the provisions of these Regulations and the code referred to in subregulation (1) the provisions of these Regulations shall prevail.

(3) In this Part any reference to a specific voltage shall be construed as including a reference to any voltage falling within a permissible variation therefrom prescribed by the Safety Code.

151. General provisions regarding electrical apparatus

(1) All electrical apparatus and conductors shall be—

(a) of suitable design and of sufficient rating or capacity to avoid dangerous overloading;

(b) so installed, worked and protected as to prevent any danger arising out of normal use; and

(c) properly maintained in a safe condition.

(2) All distribution system operating at a voltage exceeding low voltage shall be adequately equipped with main switches which shall have over-current protection and earth leakage protection.

(3) Except in offices and domestic premises, low voltage circuits or sub-circuits installed for supplying electric power by means of flexible cables to portable or transportable apparatus shall be provided with suitable and effective earth leakage protection.

(4) Each individual item of transportable apparatus operating at a voltage exceeding low voltage which uses flexible cables shall be provided with suitable and effective earth leakage protection.

(5) Electrical apparatus shall be kept clear of obstruction.

(6) Unless specifically construed for operation under wet or dirty conditions, electrical apparatus shall be kept dry and clean.

152. Diagrams of general electrical arrangement on mine

At any mine at which there is installed electrical apparatus operating at a voltage in excess of medium voltage there shall be kept at the surface of the mine plans or distribution diagrams showing the general electrical arrangement for all such apparatus as far as reasonably possible.

153. Cutting off power at surface to apparatus underground

(1) There shall be provided at the surface at every mine in which there is installed below ground electrical apparatus, other than telephone and signalling apparatus, suitable switchgear for cutting off the supply of electricity to such apparatus.

(2) Efficient arrangements shall be maintained whereby a competent person is in attendance at the mine or readily available on call for the purpose of operating such switchgear whenever any cable below ground is live and any person is at work below ground.

(3) An effective means of communication shall be provided between the place at which switchgear is situated and—

(a) each established shaft main station; and

(b) a place at or near each main substation immediately controlled by such switchgear.

154. Cutting off electrical supply

(1) There shall be provided, in relation to every electrical circuit at every mine, whether at the surface or below ground, such effective means suitably placed for cutting off supply of electricity to that circuit as may be necessary to prevent danger and, without prejudice to the generality of the foregoing such means shall be provided for cutting off supply to any flexible cable at the apparatus by which such flexible cable is connected to a fixed cable.

(2) There shall be provided, in relation to every electrical circuit at every mine, whether at the surface or below ground, such effective means of cutting off automatically the supply of electrical to such circuit in the event of any fault or overload occurring in any part of such circuit as may be necessary to prevent danger.

(3) There shall be provided such effective means of preventing the automatic making live of any electrical circuit or electric apparatus as may be necessary to prevent danger, this shall not preclude the use of autoreclosers on overhead lines.

(4) There shall be provided, in relation to every electric motor at every mine, switchgear which will enable the supply of electricity to be entirely cut off from the motor, such switchgear being placed so that it may be readily operated by the person operating the motor and, wherever the motor is remotely controlled and the switchgear cannot be locked in the "OFF" position, an additional isolator shall be provided which shall be mounted on or adjacent the motor.

(5) Where standby generating plant is installed to provide a source of electric power as an alternative to the normal source of supply, a change over switch of the design approved by the Inspector or other arrangement approved by the Inspector or the electricity supply authority, shall be installed which

shall render it impossible for standby plant to become electrically interconnected with the normal source of supply.

155. Restriction on voltages

(1) Electricity at a voltage exceeding medium voltage shall not be applied to—

(a) any transportable apparatus provided that higher voltages may be applied to such apparatus with the prior approval in writing of the Chief Inspector inspector; or

(b) any motor rated at less than fifteen kilowatts; or

(c) the rotating parts of any apparatus:

Provided that the provisions of paragraphs (b) and (c) shall not apply to slip ring motors or armatures of direct current generators and motors or any other apparatus where the prior approval in writing has been obtained from the Chief Inspector.

(2) Electricity at a voltage exceeding low voltage shall not be applied to any portable apparatus.

156. Testing of electrical apparatus

The Manager shall ensure that there is in force a scheme for the systematic inspection, examination and testing of all electrical apparatus in order to ensure as far as is practicable the safety of persons.

157. Maintenance and protection of electrical apparatus

(1) All electrical apparatus shall be so installed as to minimise the danger of fire arising therefrom and shall be kept dry.

(2) No inflammable or explosive material shall be stored in any room or compartment containing operating electrical apparatus or in dangerous proximity to any such electrical apparatus.

(3) Every electricity-generating plant and all main substation transforming and switching equipment shall be adequately fenced off or enclosed and notices in Kiswahili and English at all designed places of ingress and, when such plant or equipment is unattended by an authorised person all designed places of ingress shall be kept closed and locked to prevent unauthorised access.

(4) All switchboard created after the application of these Regulations shall have at the back a clear space of at least one and half metres and such a space shall not be obstructed in any manner.

158. Access to electrical apparatus

(1) All parts of electrical apparatus that require attention and all handles for the operation of electrical apparatus shall be so placed that there is clear means of access thereto and adequate working space thereat.

(2) All handles referred to in subregulation (1) shall be kept free of obstruction and be conveniently placed for operation.

(3) Wherever it is necessary to prevent danger, electrical apparatus shall be identified by a suitably placed label at the point of control.

159. Prohibition of damage to electrical apparatus

(1) Every person doing any work which may result in such damage to any electrical apparatus that the apparatus might be a source of danger to persons employed thereat shall take adequate precautions to protect it from such damage.

(2) No person on a mine shall wilfully damage any electrical apparatus or, without proper authority, operate, interfere with, remove or render useless any electrical apparatus but in an emergency any person may operate electrical apparatus in order to cut off the supply.

160. Insulation

(1) All material used in any mine for the purpose of insulating any conductor shall be suitable, having regard to—

(a) the degree of installation and mechanical strength required; and

(b) the conditions of temperature and moisture to which it is likely to be subjected; and

(c) any means provided for its protection.

(2) Every conductor forming part of any electrical system shall be kept efficiently insulated from earth:

Provided that—

(a) in the case of any system with polyphase supply, all neutral points in that supply shall be connected to an earth continuity system which shall be earthed at the surface of the mine; and

(b) in the case of any system with single phase or direct current supply the mid-voltage point or one pole in that supply shall be connected to an earth continuity systems which shall be earthed at the surface of the mine.

(3) In relation to every electrical system efficient means shall be provided to ensure that, as far as is practicable, wherever any dangerous defect arises in the insulation of the system the supply of electricity to the fault is automatically cut off.

161. Earthing

(1) There shall be connected to earth at the surface of the mine in such manner as will ensure immediate electrical discharge without danger—

(a) every metallic covering of any cable;

(b) the outer conductor of every concentric cable;

(c) every metallic of any covering or container of or mounting for any other electrical apparatus; and

(d) every metallic handle for the operation of any electrical apparatus having approved double insulations:

Provided that this subregulation shall not apply to any electrical apparatus having approved double insulations.

(2) Any earthing conductor installed for the purpose of subregulation (1) shall have a conductivity throughout, including any joint, not less than nought comma five (0.5) that of the conductor of having the greatest current carrying capacity in relation to which it is provided, save that the equivalent copper cross-section area shall however not be less than two comma five square millimetres ($2.5mm^2$) and need not exceed seventy square millimetres.

(3) Subject to compliance with the provisions of subregulations (1) and (2) and to the provisions of regulation 152, the metallic covering of any cable may be used as an additional earthing conductor.

(4) No switch, fuse or circuit breaker shall be placed in any earthing conductor:

Provided that this subregulation shall not preclude the use of an isolator in the neutral earthing connections of alternators or transformers.

162. Cables

(1) Every conductor in any cable to which this regulation applies other than an earthed outer conductor of a concentric cable and a metallic covering of a cable used as an earthing conductor in accordance with subregulation (3) of regulation 151 shall be covered with insulating material.

(2) Every such cable shall be efficiently protected from mechanical damage and supported at such intervals and in such manner as to prevent damage or danger thereto.

(3) Every such cable which is used for transmitting electricity at a voltage exceeding low voltage and which is situated in any underground excavation in which vehicles are moved otherwise than by hand or in which conveyors are used or at place where there may be danger or igniting inflammable material, shall be protected by a metallic covering containing all the conductors forming part of the electrical system at that place.

(4) Where such cable is protected by a metallic covering, such covering shall be—

(a) electrically continuous throughout;

(b) where necessary having regard to its position, protected against corrosion; and

(c) at any place at which there may be a danger of igniting inflammable material, so constructed as to minimise the risk of ignition of that material in the event to any fault in or leakage of current from a live conductor in that cable.

163. Flexible cables

(1) Every flexible cable at any mine shall be adequately protected against mechanical damage and shall be of an approved specification.

(2) No single core flexible cable shall be used at any time for supplying portable or transportable apparatus other than welding electrode holders or trolley-wire locomotives.

(3) Each conductor in a flexible cable shall be covered with insulating material and the conductor and insulating material shall be efficiently protected from damage.

(4) No flexible cable shall be connected to any other electrical apparatus except by means of a properly constructed connector.

(5) A metallic covering provided to protect cable from damage shall not be used as the sole earthing conductor in respect of such cable or any apparatus connected thereto.

(6) Every flexible cable in use shall be examined by a competent person at least once in each week and every such cable used with portable apparatus shall be examined immediately before use by the person authorised to use the apparatus and, if any such cable is found to be damaged or defective, it shall be repaired forthwith or taken out of service and not used further until it has been effectively repaired.

164. Switchgear and connections

(1) All parts of switchgear and of electrical connections at every mine shall be of sufficient mechanical strength and current carrying capacity to prevent danger, in particular from rough usage.

(2) All live parts of such switchgear and connections shall be so enclosed or otherwise protected as to prevent—

(a) the risk of persons accidentally coming into contact therewith;

(b) the deposition of dust or other injurious matter thereon; and

(c) the entry of moisture.

(3) Whenever any such switchgear or connection is at any place at which there may be risk of igniting any inflammable material, all live parts thereof shall be so protected so as to prevent such ignition.

(4) Any material insulating any conductor in any cable shall be efficiently protected and sealed at any point at which that conductor is connected to other apparatus and where the insulating property of the material might be diminished by moisture or otherwise.

(5) Whenever any cable protected by a metallic covering is connected to other apparatus, such metallic covering shall be securely and safely attached, both mechanically and electrically, to such apparatus.

165. Blasting cables

(1) Every blasting cable shall be readily identifiable by some specific colour or colouring.

(2) Blasting cables shall not be used for any other purpose other than blasting.

(3) Current from telephone, signalling or lighting circuit or from any other source other than a blasting box, or other blasting device approved for blasting shall not be used in a blasting circuit.

(4) Adequate precautions shall be taken to prevent cables or conductors used in blasting circuits from coming into contact with other cables or electrical apparatus other than an approved blasting box, or other device approved for blasting.

166. Transformers

In any transformer at a mine suitable provisions shall be made to guard against danger arising from the charging of lower voltage components by contract with or leakage from higher voltage components.

167. Telephone and signalling system

(1) Adequate precautions shall be taken to prevent any telephone wire or signalling conductor coming into contact with any cable or electrical apparatus connected to a higher voltage systems.

(2) Contact makers in telephone or signalling apparatus shall be so constructed as to prevent the accidental closing of the circuit.

(3) In any electrical signalling system where failure or disconnection would be likely to cause a dangerous situation due to loss of signalling facilities a means of verbal communication or alternative signalling shall be provided.

168. Notices to be posted

It shall be the duty of the Manager at every mine to ensure that the under-mentioned notices are kept posted within all generating stations, winding engine rooms, main substations and pump stations and elsewhere, as may be necessary to minimise danger, in such characters as to be easily seen and read—

(a) a notice prohibiting unauthorised person from interfering with electrical apparatus; and

(b) a notice containing directions for procedure in case of fire; and

(c) a notice containing directions for treatment of persons suffering from electric shock.

169. Persons operating electrical apparatus

(1) Any person doing any work with or on any electrical apparatus, which may make such apparatus a source of danger to persons, shall take adequate precautions to ensure the safety of such persons.

(2) Any person neglecting to maintain or inspect or carry out work on electrical apparatus as instructed by a competent person shall be guilty of an offence.

(3) No person shall be instructed to carry out any duty on any electrical apparatus, for which technical knowledge and experience are necessary to avoid danger, except under such a degree of supervision as may be appropriate having regard to the nature of the work and the knowledge and experience of the person concerned.

(4) No person shall commence any work upon conductor, or in proximity to any exposed conductor, being in either case a conductor in a circuit in which the voltage exceed extra low voltage, until he has ensured that such conductor has been made dead, and has taken steps, by earthing or other adequate means, to ensure that it will remain dead until he is satisfied that it is safe to restore the current:

Provided that this subregulation shall not apply to any work on electrical apparatus which due to location of such apparatus cannot be made dead in which case such work is done by or under the constant supervision of a qualified electrician authorised in writing by the Manager to carry out duties incidental to the generation, transmission, distribution or use of electrical energy.

(5) No person whose duties include the operation of any transportable or portable apparatus supplied with electricity by means of a flexible cable shall at any time either leave that apparatus while it is working or leave the working place, except for the purpose of cutting off the supply of electricity to the cable, without ensuring that the cable has been made dead, unless his instructions expressly authorised him to do so.

(6) A person whose duties include the operation during his shift of any electrical apparatus supplied with electricity by means of a flexible cable shall ensure, before using that cable during that shift, that so much of it as is accessible is examined and that any further parts which subsequently become accessible are also then examined, and he shall not use any cable which is found to be damaged or defective.

170. Permissible voltage

(1) Subject to subregulation (2), the maximum permissible voltage for lighting underground shall be—

(a) one hundred and thirty volts alternating current between line and earth;

(b) two hundred and twenty-five volts between phases (line voltage) in a three phase alternating system if the neutral point is earthed or two hundred and fifty volts in a single phase system if the centre point is earthed; or

(c) one hundred and thirty volts direct current.

(2) Subregulation (1) shall not apply to electric discharge lamps but the conductors, lamps and all equipment associated with such lighting shall be contained in an adequate earthed protective enclosure.

(3) The maximum permissible voltage for lighting on the surface shall be two hundred and twenty-five volts alternating or direct current to earth;

Provided that this shall not apply to the starting and operating voltage of electric discharge lamps.

171. Overhead lines

(1) Where bare overhead wires are used for the transmission or distribution of electrical energy on the surface, glazed porcelain or glass insulators of the correct type and voltage rating shall be used.

(2) Except in the case of electric trolley wires and service lines, the maximum height of any such bare wires or other overhead line conductor above ground or any gantry, dump or similar artificial surface shall be four comma nine metres for voltages not exceeding medium voltage and five comma five metres for high voltage systems.

(3) The height of the earth wire in the system of any voltage shall not be less than four comma six metres above ground.

(4) The minimum height above road or rail surface of any line conductor or earth wire shall be five comma eight metres (5.8m) whenever an overhead line crosses over a road or railway line normally open to traffic.

(5) In order to prevent danger arising from a broken line conductor or leakage from a line conductor, stay wires, supporting framework and metal poles shall be bonded to an earthed conductor carried continuously from pole to pole throughout the length of any overhead powerline.

(6) In the case of an electric trolley line system to be used on the surface or underground, the height of the overhead trolley conductor and the voltage at which such system operates shall be subject to the approval in writing of the Chief Inspector.

172. Lines close to buildings

(1) Live conductor used on service lines in the terminal span of -a connection between an overhead line and a building or in a span between one building and another building shall be insulated conductors.

(2) The point of attachment of a service line shall—

(a) where connected to an overhead line, be at a support;

(b) where connected to a building be at a support securely fixed to the building.

(3) A conductor, other than an earth conductor, leading to or from a transformer or other apparatus at a pole mounted substation shall, at all points below a height of three comma five metres from the ground, be insulated and, in the case of a high voltage conductor, shall have earthed metal sheathing or earthed screening.

(4) Wherever any portion of any overhead line passes any building and thereby might be inadvertently touched by any person or be in such a position to be adversely affected by conditions of heat or moisture, that portion shall be insulated.

(5) The height above ground of any low or medium voltage insulated line conductors used in a service line in the terminal span of a connection between an overhead line and a building shall, at any point up to and including the point of attachment to the building, be not less than three comma one metres:

Provided that the provisions of this subregulation shall not apply to an overhead cable consisting of insulated conductors enclosed in earthed metal sheathing or armouring.

173. Protection of supports

Every support which carries overhead conductors or other electrical apparatus shall be adequately protected to prevent any unauthorised persons from coming into dangerous proximity to the conductors by climbing such support.

174. Trolley line and electrically propelled vehicles

(1) Unless otherwise authorised in writing by the Chief Inspector, a trolley line conductor system shall be effectively protected throughout its length against the danger of persons making inadvertent contact with the current carrying parts.

(2) Effective means shall be provided for cutting off the supply of electricity to the trolley line conductor system of any section on the same level and any such section so controlled shall not exceed an installed length of one thousand metres.

(3) Effective means shall be provided, by bonding or otherwise, to ensure that—

(a) the track system overrun by locomotives operating from trolley line conductors is continuous throughout its length;

(b) the resistance of any joint does not exceed the resistance of ten metres of the track rail; and

(c) the resistance of the whole track system is not greater than four times the resistance of the overhead trolley conductor.

(4) Reasonable precautions shall be taken to ensure—

(a) that no metallic structure or articles in the vicinity of a trolley line conductor shall attain a potential above that of earth; and

(b) the safety at all times of any person working or walking in close proximity to trolley line conductors.

(5) The supply of electricity shall be cut off from any trolley line system which is not in regular daily use.

(6) There shall be provided on any locomotive exceeding eight tonnes mass and on any other electrically propelled vehicle, whether supplied with electricity from trolley line conductors or storage batteries a device activated by the driver the release of which an emergency will automatically disconnect the supply of electricity to the driving motors.

(7) Control levers of electrical ly-propel led vehicles shall be so arranged that such levers cannot accidentally be removed whilst there is a supply of electricity to the driving motors.

175. Battery and charging station requirements

(1) No person shall charge or change any battery of any storage-battery locomotive or storage-battery vehicle at any mine except at a place recognised for the purpose which, for the purpose of this section, shall be called a "charging station":

Provided that this subregulation shall not apply to any combined battery and trolley line locomotive which is designed for battery charging while in use.

(2) Every charging station shall be—

(a) constructed of non-flammable material; and

(b) provided with suitable and sufficient apparatus for fighting outbreaks of fire;

(c) under the control of a competent person;

(d) adequately lighted and ventilated; and

(e) provided with a clean water supply.

(3) Every charging station and all battery chargers shall be so arranged that the gases evolved in charging are adequately dispersed.

(4) Any person spilling any water or electrolyte on any battery or any electrolyte on the floor of any charging station shall forthwith remove it or cause it to be removed.

(5) No unauthorised person shall interfere with any battery charging equipment at any charging station.

(6) No person shall smoke or use any light, other than an adequately protected electric lamp, in or within ten metres of any charging station, and a suitable notice to this effect shall be conspicuously displayed.

(7) Every charging station shall be provided with suitable first aid equipment.

(8) No material other than that required for charging operations shall be stored in a charging station.

Part XII – Dams, waste emplacement, pumps and pipelines (regs 176-184)

176. A major impoundment dam and waste dump

(1) The Manager shall make an application for approval to construct a major impoundment, dam, or waste dump, complete all necessary supporting documents, to the Chief Inspector and copies of the complete application shall be sent to other relevant regulatory agencies specified by the Chief Inspector.

(2) The Manager must ensure that no work is commenced on a major waste dump, dam or impoundment without the written acceptance of the design by the Chief Inspector and possession of all other applicable permits and licences.

(3) The Manager shall implement and maintain a monitoring program recommended in the design accepted by the Chief Inspector.

(4) Major waste emplacements and major impoundment or dams shall—

(a) be designed by a qualified professional engineer registered according to the Engineers Registration Act[5];

(b) comply with the specifications established by the Chief Inspector.

(5) Prior to the abandonment of any impoundment, dam or waste dump, the long term stability of exposed slopes shall be assured to the satisfaction of the Chief Inspector.

177. Tailings impoundments

(1) No tailings impoundment shall be operated until—

(a) the Inspector is satisfied that sufficient work has been carried out and sufficient precautions taken out to enable safe, continuous operation in accordance with the approved design; and

(b) the Manager has received the written permission from the Chief Inspector to commence discharges and all other applicable permits and licences.

(2) The Manager shall provide the Chief Inspector with an annual report on the operation and maintenance of the tailings disposal system.

(3) The Manager shall prepare and maintain a current tailings system operating manual and shall provide the Inspector and the employees involved in the operations of the tailings disposal system with a copy.

(4) Any impoundment not operated for a period of twelve or more months may be declared as closed by the Chief Inspector.

(5) Upon closure or declared closure of a tailing impoundment, the Manager shall submit a report to the Chief Inspector for his acceptance listing the steps that will be taken to ensure structural stability and runoff control.

(6) Closed or abandoned tailings impoundments shall only be reactivated on receiving written authorisation from the Chief Inspector.

178. Water controlling dams

(1) Major water controlling dams shall be subject to the same requirement as described for tailings dams and their appurtenances in regulation.

5

Cap. 63

(2) A reservoir or pond declared inoperative by an Inspector shall be breached or otherwise disposed of in accordance with its licence.

179. Dumps

Material which has a high probability of spontaneous combustion shall be placed in a separate dump.

180. Pipelines design, manufacture and installation

(1) This regulation applies to and in relation to the design, manufacture, installation, alteration and operation of pipelines which are used for conveying minerals or mineral product or both by means of fluid under pressure in or about mines where—

(a) the fluid pressure exceeds 3.5 megapascals; and

(b) the pipelines exceeds 10 kilometres in length.

(2) A pipeline shall not be—

(a) installed in, on or about a mine;

(b) materially altered whether by way of addition or modification unless the Chief Inspector has given his final approval under regulation 181(3).

181. Notice for installation

(1) The Manager shall give to the Chief Inspector, not less than two months before the work is commenced, written notice of a proposal to install a pipeline or to materially alter an existing pipeline. The notice shall—

(a) set out a general statement of the proposal; and

(b) specify—

(i) the minerals, mineral products and fluids to be conveyed;

(ii) the designed fluid pressure; and

(iii) the diameter and length of the pipeline.

(2) The Chief Inspector may require the owner or Manager of the mine to submit further information in respect of the proposal.

(3) Where a notice is given under subregulations (1) and (2) the Chief Inspector shall, within forty days thereafter, by notice in writing to the owner and the Manager of the mine—

(a) give his final approval of the proposal to install or alter the pipeline;

(b) advise that he refuses to give any approval of the proposal stating the reasons for his refusal; or

(c) advise that he gives provisional approval only and that final approval of the proposal will be subject to the submission of satisfactory plans, specifications and other information within such time as is specified in the notice.

(4) If the application for that approval is not made within the specified time or within such extended time as may be allowed by the Chief Inspector, the provisional approval of the proposal shall cease to be in force.

(5) An application for final approval of a proposal to install or alter a pipeline shall be made in writing to the Chief Inspector giving full particulars of the proposal and shall, unless he otherwise approves, be accompanied by two copies of the following—

(a) location;

(b) design drawings and specifications including the manufacturers drawings and specifications;

(d) procedures for installation and pressure testing;

[please note: numbering as in original.]

(e) procedures for repair and maintenance; and

(f) measures to be taken to minimise corrosion.

(6) The Chief Inspector may require the owner or Manager of the mine to submit further information in respect of the proposal.

(7) Where an application is made under subregulation (5) to the Chief Inspector he shall, within forty days thereafter, by notice in writing—

(a) give his final approval of the proposal to install or alter the pipeline; or

(b) advise that he refuses to give his final approval of the proposal stating the reasons for his refusal.

(8) Nothing in this regulation shall operate so as to prevent an application being made under subregulation (5) in the first instance.

182. Pipeline to be tested

The Manager of a mine shall—

(a) ensure that a pipeline is pressure tested by competent person in accordance with laid down procedures and approved by the Chief Inspector before it is first put into use;

(b) ensure that a pipeline is not put into use unless the results of the pressure test indicate that the pipeline may be used safely for conveying the minerals or mineral products that it is designed to convey;

(c) ensure that the results of every such pressure test are recorded in the record book.

183. Progress reports to be submitted

During construction of a pipeline the Manager shall submit to the Inspector weekly progress reports on the construction operations provided that it shall be sufficient compliance with this subregulation if the Manager submits copies of reports prepared by a person approved by the Chief Inspector.

184. Competent persons to examine pipelines

(1) A competent person shall carefully examine the pipeline in accordance with the maintenance and repair procedures approved by the Chief Inspector. The results of every such examination shall be recorded in the Record Book.

(2) Within six months from the date when a pipeline is first used, the Manager shall submit to the Inspector—

(a) two copies of a final report on the construction of the pipeline; and

(b) two copies of plans showing—

(i) the location of the pipeline in relation to roads, railways, rivers, streams, fences, property boundaries, underground cables, electricity transmission lines and other structures adjacent to the pipeline;

(ii) the location of every pump station, storage tank, treatment tank, metering device, valve and scraper trap along the pipeline;

Such plans shall be drawn to a suitable scale.

(3) When a break occurs in a pipeline, the Manager shall ensure that adequate steps are taken forthwith to minimise loss of fluid and mineral from the pipeline. The Manager shall forthwith report such break to the Inspector.

(4) As soon as practicable after a break in a pipeline has been repaired, the Manager shall submit a report in writing to the Inspector including particulars of—

(a) the time and place of the break;

(b) the approximate mass of minerals, mineral products and fluid lost;

(c) the extent of damage to the pipeline;

(d) the conditions that caused or contributed to the break, if they are known;

(e) the methods adopted to repair the break; and

(f) the precaution taken against any further breakage of the pipeline.

Part XIII – Exploration (regs 185-195)

185. Emergency facilities to be available at the exploration site

(1) All active exploration drill sites shall be equipped with a minimum number of first aid kits, a stretcher, an audible emergency signal device, and some form of radio communication acceptable to the Inspector.

(2) At exploration drill sites, at least two members of the drill crew shall have a valid first aid certificate unless the drill site is accessible in all weather conditions within five minutes of the main camp or other facility where there is a qualified first aid attendant.

(3) Isolated camps shall have a means of communication for obtaining emergency transportation to a hospital or clinic.

(4) The Manager shall ensure that any persons employed for the first time at an exploration site have been adequately instructed on any potential hazards in the region and how to protect themselves; such instruction shall include advice on protection from attacks by wild animals, the wearing of appropriate clothing, protective gear, the need for suitable equipment to avoid becoming lost, and safety procedures to be adopted for aircraft operations and boat handling.

186. Electrical surveying system

Where an induced polarisation geophysical system is being operated:

(a) All energized wires shall be sufficiently insulated to prevent an electric shock when the system is being operated at its maximum rated voltage;

(b) the induced polarisation electrodes shall have visible warning stickers stating "Danger - High Voltage";

(c) the person in charge of the survey shall ensure that—

(i) signs shall be posted at the entrances to the area where induced polarisation surveys are being carried out to warn other persons who may enter the area;

(ii) all signs are removed on completion of the survey and no wires used during the survey are left on the site after the survey is completed;

(iii) radio communication is provided to a member of the crew whose movements are out of sight and sound of the other crew members;

(iv) electric blasting activities are coordinated with active induced polarisation and active electromagnetic survey work.

187. Uranium exploration

(1) Where a person intends to commence exploration or cause exploration to be commenced for uranium, thorium or both, he shall notify the Chief Inspector of his intention by filing on the prescribed form, obtainable from the Inspector, at least thirty days before commencing exploration.

(2) A person who notifies the Chief Inspector under subregulation (1) shall forthwith after filing that information with the Chief Inspector, cause a notice of the area of the intended exploration to be published in the *Gazette* and in a newspaper that circulates in the area close to the specified area.

(3) In addition to all the requirements of the Act and these Regulations, no person shall commerce exploration or cause exploration to be commenced at a specified area until—

(a) a baseline survey of the designated site has been conducted in accordance with the requirements of the Third Schedule to these Regulations;

(b) a copy of the results of that baseline survey has been filed with the Chief Inspector; and

(c) the Chief Inspector has given his written approval for the intended exploration at that specified area.

(4) "Specified area" as used in this part means and includes the exploration area referred to under subregulation (2).

188. Uranium samples to be tested

(1) Every owner, agent, or Manager at a specified area shall, during exploration—

(a) ensure that all drill cores taken during exploration, and other excavated or disturbed materials resulting from exploration in that site, are tested as soon as practicable—

(i) in the case of a drill core, after the drill core is removed from the ground; and

(ii) in the case of materials excavated or disturbed, as the case may be, for gamma radiation to detect if uranium or thorium mineralisation is present;

(b) where under subregulation (1)(a), gamma radiation is detected as being above background level for the specified area, determine as soon as practicable after that detection, the grade of uranium or thorium or both, as the case may be; and

(c) keep a written record at that specified area of the grade of uranium or thorium determined under subregulation (1)(b).

(2) Where a grade is to be determined under subregulation (1)(b), a sample shall consist of a continuous section one metre or more in length—

(a) of drill core; or

(b) from a trench, pit or other excavation and the sample shall be not less than 10 kg in weight.

189. Inspector to be notified

Where an assay under regulation 188 indicates uranium in amount of 0.05%or more by weight, or thorium in an amount of 0.15% or more by weight, the owner, agent, or Manager at the designated site shall ensure that—

(a) the Chief Inspector and the Inspector are informed within seven days of their being notified of the assay result; and

(b) further exploration, termination of exploration, or other related work at the specified area is conducted only in accordance with Fifth Schedule to these Regulations.

190. Exploration samples outside the specified area

(1) Mineral assays of exploration samples from a site that is not a specified area shall include an assay for uranium and thorium when ordered by the Chief Inspector.

(2) A sample ordered under subregulation (1) shall consist of a continuous section 1 inch or more in length—

(a) of drill core; or

(b) from a trench, pit, or other excavation,

and the sample shall be not less than 10 kg in weight.

(3) Where an assay under subregulation (1) indicates uranium in an amount of 0.05% or more by weight, or thorium in an amount of 0.15% or more by weight, the owner, agent, or Manager at the site shall ensure that—

(a) the Chief Inspector is informed within seven days of notification of the assay result;

(b) the prescribed form, obtainable from the Inspector, is filed with the Chief Inspector within 72 hours of being notified of the assay result;

(c) a baseline survey of the area is conducted within fourteen days of being notified of the assay result in accordance with the Third Schedule to these Regulations, if the area is still active, but if the area is no longer active the baseline survey shall be carried out prior to any further exploration;

(d) a copy of the results of the baseline survey is filed with the Chief Inspector as soon as practicable;

(e) further exploration, termination of exploration, or other related work at the area is conducted only in accordance with Fourth Schedule to these Regulations; and

(f) cause a notice of the location to be published in the *Gazette* and in a newspaper that circulates in the area close to the specified area.

191. Aircraft operations procedures

(1) Operating procedures, including the selection of aircraft and equipment, shall be planned comprehensively and in detail by qualified persons.

(2) All persons involved in air craft operations shall be given adequate pre-job instruction and, when necessary, operational training before actual operations commence.

(3) All operations shall be conducted under the direction of qualified persons.

(4) No persons shall be on any load supported or suspended from an aircraft in flight.

(5) Safe access and egress routes shall be available for persons when travelling by fixed-wing aircraft or helicopter.

192. Safety measures when operating aircraft

(1) Whenever approaching or leaving a helicopter with blades rotating, all persons shall remain in full view of the pilot and keep in a crouched position. Persons shall avoid the area from the cockpit or cabin rearward unless authorised by the pilot and should not approach from uphill or depart in an uphill direction.

(2) No airlift operation shall be initiated without effective clear channel radio communication between pilots and supervisors of all persons involved in the operation. Standard hand signals shall be rehearsed in advance but shall be used only to complete an operation in the event of radio failure when the aircraft has been committed to a point which precludes termination of the operation.

(3) Persons who are in two way radio contact with pilots, shall be identified by wearing fluorescent red vests or jackets.

(4) In structural erection or dismantling, where existing conditions adversely affect communications between the supervisor and the crew handling an airlifted load, designated crew members shall wear receivers on which they can hear radio communications to and from the pilot.

(5) Appropriate personal protective equipment, including head, hands, hearing, and eye protection gear, shall be worn by workers employed in proximity of operating helicopters.

(6) Persons shall not touch an airlifted load or any part of its rigging until accumulated static electricity has first been discharged to ground.

(7) Material assembly yards, landing areas, and work sites shall be located at a safe distance from trees, poles, power lines, and other obstructions, and shall be kept clear of slipping and tripping hazards, and excavated materials or other obstructions, which could endanger persons during placement of airlifted loads.

(8) In all work areas exposed to rotor downdrafts, equipment and materials shall be secured against dislodgement, and effective measures shall be taken to control dust and prevent loose materials from becoming airborne.

(9) Helicopter shall be equipped with both electrically and mechanically operated load release mechanisms, to permit instant release of the load in an emergency and the automatic load release mechanisms shall not be armed while handling loads over persons.

(10) Tag lines shall be of a length that will not permit their being drawn up into rotors.

(11) Persons shall keep clear of airlifted loads for those persons directly involved in handling and securing the loads.

193. Helicopter landing pad

Any structure provided for a helicopter landing pad shall—

(a) be constructed so as to ensure stability for the helicopter and provide a safe, non-slip footing for persons; and

(b) where required by the Commissioner—

(i) have a permissible loading certificate signed by a professional engineers; and

(ii) have the permissible load limits marked on the structure in a manner clearly visible to the helicopter pilot or the pilot shall be given a written copy of the permissible loading certificate.

194. Acid generating strata

(1) Excavated material shall be kept back a minimum distance of one metre from the edge of any trench excavation, and one and half metre from any other excavation.

(2) Where the results of tests in subregulation (1) show that acid generation can occur, then the generating material shall be placed in a manner which minimises the production and release of acid mine drainage to a level that complies with environmental standards as specified in the Fifth Schedule of the Mining (Environmental Management and Protection) Regulations, 1999.

195. Removal of excavated material

Excavated material shall be kept back a minimum distance of one metre from the edge of any trench excavation, and one and half metre from any other excavation.

(2) Where the excavation is in rock and less than 2m in depth, the sides shall be scaled to prevent loose material failing onto persons working in the excavation. The width of such an excavation shall be such that a person is able to turn around without coming into contact with the sides.

(3) Where the excavation is greater than 2in in depth, the sides shall be supported in a manner acceptable to the Inspector.

(4) All excavations shall be inspected immediately before any person is allowed to enter. Any hazard shall be made safe before persons are allowed to conduct other work in the excavation.

Part XIV – Miscellaneous provisions (regs 196-203)

196. Mine plans to be kept up to date

The following plans must be kept and must be brought up to date at least every six months—

(a) a surface plan, or true copy thereof on tracing paper, of property appertaining to the mine, which shall show on a scale of 1/500 or 1/2500—

(i) the boundaries and registered numbers of mineral rights, and rights of occupancy;

(ii) the outcrops and dip of the reefs or other mineral or alluvial deposits;

(iii) tall open surface workings, shaft openings, boreholes, tailings and other dumps;

(iv) buildings, water-courses, reservoirs, public roads, railways, permanent tramways, electric power lines, public telegraph and telephone lines, cableways, main pipe lines, fences and all surface objects which it is needful to protect against undermining;

(b) an underground plan which shall show on a scale of 1/500 all mine workings, whether abandoned or in use, faults, dykes, and important changes in the dip of the reef or mineral bed—

(i) portions of the mine which have been stopped out must be shown shaded;

(ii) if the average dip of reef or deposit be less than 45° then the, horizontal projection should be shown on the plan, and if the average dip be more 45° then the vertical projection must be given. This plan may also be made on an incline projection, but must be clearly stated on the plan that inclined distances are shown;

(iii) on all plans both true and magnetic meridian be shown;

(c) transverse sections of the principal shafts in use must also be made.

197. Copies to be deposited with the Commissioner

(1) Two copies of the mine plan must be deposited at the Commissioner's office and must at the request of the Commissioner be brought up to date at the end of each year.

(2) The copies of the mine plan deposited at the Commissioner's office must be certified as correct by the Manager of the mine.

(3) If on any mine the plans mentioned in regulation 196 are not made or are not kept as required, the Commissioner has the right to have such plans or necessary addition to the plans made at the expense of the Manager of the mine.

(4) If the copies of the mine plan are not sent as required by subregulation (1) or if such copies sent are not made according to these Regulations, the Commissioner has the right to have such plan(s) or necessary addition to such plan(s) made, at the expense of the Manager.

198. Copies not to be availed to unauthorised person

No copies of the plans referred to in regulations 196 to 197, or any information concerning them, shall be given by the Mineral Division to any unauthorised person nor shall plans be open to the inspection of any such person without the permission of the Manager. Nothing in this regulation shall prevent the Mineral Division showing or supplying to the public maps showing boundaries of Mineral Rights, topography and public utilities.

199. Plans to be updated on closure

Before a mine or any part of a mine is abandoned or closed down or rendered inaccessible, all underground plans shall be brought up to date, and copies thereof shall be handed in to the Inspector.

200. Voice levels

(1) If a person is wearing a personal hearing protector in a noisy environment that person is to be regarded for the purposes of these Regulations as receiving the noise that would be received if that personal hearing protector were not worn under normal noisy levels.

(2) Under these Regulations, the action noise level is:

(a) for peak noise level, 140 dB(A); or

(b) for noise exposure, 85 dB(A).

201. Manager to reduce noise levels

(1) The Manager must reduce, so far as is practicable, the noise received by each person at a workplace at the mine who is receiving, or is likely to receive, noise above the action level by the following means—

(a) so far as is practicable, by engineering noise control (that is reducing noise level or peak noise level); and

(b) to the extent that it is not practicable to comply fully with paragraph (a) by engineering noise control, by reducing the length of time the person receives noise.

(2) Without limiting any duty to reduce noise placed on a responsible person under this division, if any person is receiving, or is likely to receive, at the workplace noise above the action level the Manager must ensure that—

(a) a personal hearing protector, selected and maintained as approved, is provided to each of these persons;

(b) safety warning signs are displayed about the wearing of personal hearing protectors; and

(c) appropriate information, instruction and training about risks to hearing, steps to be taken to reduce these risks, and the use and maintenance of personal hearing protectors are provided.

202. Notification and preparation of noise report

(1) The Manager shall cause a noise report relating to a workplace at the mine to be prepared as soon as is practicable but not in any case later than twelve commencement of mining operations.

(2) If a noise report relating to a workplace has been prepared each responsible person at the mine shall cause another noise report to be prepared relating to the current noise situation at that workplace as soon as is practicable if—

(a) there is, or is likely to have been, an increase of 5dB or more in the peak noise level or noise exposure received by a person at the workplace who was already receiving noise above the level;

(b) at any time after five years from the date of the last noise report relating to the workplace, any person at the workplace is receiving, or is likely to be receiving, noise above the action level; or

(c) required to do so by the Inspector.

(2) The Manager must ensure that a noise report is prepared in the manner and form approved in relation to the workplace or type of workplace.

(3) The Manager must ensure that the noise data on which a noise report is based, or on which noise report is comprised, is collected by a person approved to collect that data.

(5) A noise officer must use only approved procedures and approved sound measurement equipment to collect data which is to be used for a noise report.

[please note: numbering as in original.]

(6) As soon as is practicable after a noise report relating to a workplace at a mine has been prepared, the Manager of, and each employer at, the mine ensures that—

(a) the contents of the noise report are communicated to all persons at the workplace and to any other persons that the Manager considers to be at risk;

(b) the Chief Inspector is notified in the approved manner that the noise report has been prepared;

(c) if requested to do so, a copy of the noise report is made available to the Inspector or any person employed at the mine who may be exposed to the noise in that workplace.

(7) The Manager must ensure that there is retained at the workplace if practicable, or if that is not practicable, at another readily accessible place—

(a) if only one noise report relating to the workplace has been prepared, that report; or

(b) if more than one noise report relating to the workplace has been prepared, the last two of those reports prepared.

(8) Each responsible person at a mine must ensure that within six months after a noise report relating to a workplace at the mine is prepared, a written plan setting out ways of reducing noise at the workplace is prepared and implemented.

203. Mine closure

(1) When a mine is closed down permanently or for an indefinite period, or otherwise left unattended for any length of time, the owner, agent or Manager shall cause the entrances to the mine and all

other pits and openings that are dangerous by reason of their depth or otherwise, to be protected against inadvertent access, to the satisfaction of the Inspector; and—

(a) prior to mine abandonment all shafts, raises, stope openings, adits, or drifts opening to the surface shall be either capped with a stopping of reinforced concrete or filled with material so that subsidence of the material will not pose a future hazard; and

(b) in the ease of shafts or raises, the stopping shall be secured to solid rock or to a concrete collar secured to solid rock and capable of supporting uniformly distributed load of 12Kpa or a concentrated load of 24kN, whichever is greater.

(2) On the closure of a mine, the owner, agent or Manager of the mine shall remove or dispose, to the satisfaction of the Inspector, of all explosives and all chemicals and reagents.

First Schedule (Regulation 145)

Accident report

_____ Mine

Fatal/Non-fatal[6]1 _____

Name of injured/deceased[7]2 person: _____

Mine No. _____

Nature of Employment: _____

Place of accident: _____

Date of accident: _____

If not employed by mine, state name of actual employer: _____

Nature and extent of injury: _____

Description of accident and cause: _____

Recommendation to prevent occurrence of similar accident _____

Official in charge: _____

Date report despatched: _____

Signature of Manager: _____

Second Schedule (Regulation 146)

Non-casualty accidents occurrence of which to be notified

1. **Winding plants**

(a) Running out of winding engine, winding drum or conveyance;

(b) Fracture, failure or serious distortion of winding rope, fracture, failure or serious distortion of any connection between the winding rope and the drum or between winding rope and conveyance or between the winding rope and any other load suspended from or attached to such rope; fracture,

6 Strikeout whichever is inapplicable.

7 Strikeout whichever is inapplicable.

failure or serious distortion of any connection between conveyances or between a conveyance and any suspended or attached load, fractures of guide rope or its connection; fracture of balance or tail rope or its connection;

(c) Fracture or failure of any essential part of the winding engine, fracture or failure of any safety device used in connection with the winding equipment;

(d) Fracture or failure of winding rope or balance rope sheave; fracture or failure of any essential part of the headgear or other sheave support;

(e) Derailing of conveyance;

(f) Fracture or failure of the brakes or its operating mechanism;

(g) Any overwind or overrun of the conveyance to an extent which may have endangered persons or have caused damage to the winding equipment;

(h) Failure of depth indicator.

2. **Boilers**

Fracture or failure of any essential part of a boiler.

3. **Miscellaneous**

(a) Extensive cavings or subsidence in the ground or working causing or liable to cause damage to underground workings, or the surface or to endanger persons;

(b) Any accident due to explosives, or any accidental ignition or detonation of explosives;

(c) Flooding of any considerable portion of the workings or failure of any dam or reservoir used for conserving water or slimes;

(d) Any fire or any indication or recrudescence of fire or of spontaneous combustion in the mine or any explosion or ignition of gas or dust;

(e) Breakdown of any main ventilation fan.

(f) The detection of any inflammable gas whatsoever in any mine not classified.

Third Schedule (Regulation 187)

Baseline survey requirements

(1) Gamma radiation measurements shall be taken 1m above the existing surface—

(a) on a grid pattern with each grid having sides not greater than 10m in length at every place on the designated site that drilling, stripping, trenching, pitting, or other excavation including road making will be carried out;

(b) at other places specified by the Inspector.

(2) (a) Water samples shall be taken from all water courses and ground water that are capable of being affected by the exploration.

(b) Water samples taken be analysed by a laboratory experienced in analysing for dissolved uranium, gross alpha and any other constituents required by the Chief Inspector.

(3) The results of the gamma radiation survey and the analyses of water samples taken under paragraphs (1) and (2)(a) of this Schedule and samples where taken, shall be sent to the Chief Inspector by the owner, agent or Manager of the mine at that designated site.

(4) The owner, agent, or Manager of a mine at a designated site shall ensure that measurements for radioactivity required under paragraphs (1) and (2) of this Schedule are carried out at the designated

site with instruments that are calibrated in accordance with the manufacturer's instructions and used by person knowledgeable in the use of these instruments.

Fourth Schedule (Regulation 189)

Exploration on specified areas

(1) (a) Unless the Chief Inspector permits otherwise under the Act, all surface drill holes at a specified area that encounter uranium mineralisation in a grade of 0,05% by weight or greater or thorium mineralisation in a grade of 0.15% by weight or greater shall be completely filled with concrete on completion of exploration at that designated site.

(b) Before seating a surface drill hole under paragraph (1)(a) of this Schedule, the Inspector shall be informed of the procedure to be used in sealing that surface drill hole.

(c) After a drill hole is seated in accordance with paragraph (1)(a) of this Schedule it shall be marked in a durable way with the following information—

(i) the name of the owner of the mine;

(ii) the date the drill hole was seated;

(iii) the depth and length of the drill hole.

(d) A plan showing the location, size, depth and length of each drill hole sealed pursuant to this Schedule shall be forwarded to the Inspector at the end of the exploration season in which it was sealed.

(2) (a) Where there is surface drilling at a specified area, the owner, agent, or Manager of the mine at that specified area shall take all the necessary steps to ensure that no drilling fluid, water, or drill cuttings contaminate any drinking water supply, irrigation water supply, or surface water.

(b) Where ground water issues from a borehole during surface exploration at a designated site, the owner, agent, or Manager of a mine at that designated site shall ensure that the flow of water from the borehole is stopped for that purpose, and that is capable of preventing any escape of the ground water into surface drainage water until—

(i) samples of water from the surface pit, trench, or other excavation, as the case may be, have been taken and analysed for radioactivity and dissolved uranium by a laboratory experienced in analysing for radioactivity and dissolved uranium; and

(ii) the results of the analyses under paragraph (2)(a)(i) of this Schedule show that the water from the surface pit, trench or other excavation—

[A] conforms to the Guidelines for Drinking Water Quality; or

[B] does not exceed the average background level of radioactivity or dissolved uranium in the water at the site by more than 10% of the water quality standards of the Guidelines for Drinking Water Quality;

[C] the owner, agent, or Manager of a mine at a specified area shall take all the necessary steps to ensure that no water escapes from any surface pit, trench or other excavation at the specified area unless such water conforms to quality standards specified in paragraph (2)(b) of this Schedule;

[D] the owner, agent, or Manager at a specified area shall ensure that copies of the test results referred to in paragraph (2) of this Schedule are forwarded to the Chief Inspector and zonal Inspector within fourteen days after receipt from the laboratory.

(3) (a) No owner, agent, or Manager of a mine at a designated site shall store on the surface of the designated site, drill cores or exploration samples containing uranium in a grade of 0.05% by weight

or greater, or thorium in a grade of 0.15% by weight or greater during the period of exploration at the designated site except—

(i) in an enclosed facility; or

(ii) a non-enclosed storage area that has been approved by an inspector.

(b) Where drill cores or exploration samples that contain uranium or thorium are stored pursuant to paragraph (4)(a) of this Schedule the owner, agent, or Manager of the mine at that designated site shall ensure that—

(i) in the case of drill cores or exploration samples stored in an enclosed facility—

[A] the drill cores and exploration samples are not accessible to any person other than a person authorised by the Manager;

[B] the enclosed facility is locked or otherwise secured when it is not in use;

[C] the enclosed facility is adequately ventilated; and

[D] a radiation warning sign is posted at or near the enclosed facility prohibiting entry unless authorised by the Manager; and

(ii) in the case of drill cores or exploration samples placed in a non-enclosed storage area—

[A] the drill cores and exploration samples are not accessible to any person other than a person authorised by the Manager; and

[B] a radiation warning sign is posted at or near the storage area prohibiting access unless authorised by the Manager.

(c) The Manager, agent, or Manager of a mine at a specified area shall cause all drill cores and exploration samples stored pursuant to paragraph (4)(a) of this Schedule to be monitored—

(i) in the case of an enclosed facility, for levels of radon daughters and gamma radiation at such times and in such a manner so as to ensure that no person entering the enclosed facility is exposed to a level of radiation greater than that prescribed in the code; and

(ii) in the case of a non-enclosed storage area, for levels of gamma radiation at such times and in such a manner so as to ensure that no person entering into the non-enclosed storage area is exposed to a level of radiation greater than that prescribed in the code.

(d) When drill cores of exploration samples containing uranium or thorium or both are shipped from a specified area, the owner, agent, or Manager of the mine at the specified area shall keep a copy, and forward to the Chief Inspector a copy of a report that contains the following information—

(i) the location on the designated site from where the drill cores or exploration samples were taken;

(ii) the weight of the drill cores or exploration samples shipped;

(iii) the type of rock, gravel, sand, or other material containing the uranium or thorium;

(iv) the grade of the uranium or thorium if known;

(v) the date of shipment;

(vi) the person to whom the drill cores or exploratory samples were shipped.

(4) (a) During exploration at a designated site, the owner, agent, or Manager of a mine at the designated site shall ensure that gamma radiation measurements are taken at all newly disturbed areas and at other places on the site when directed by the Chief Inspector, and the gamma radiation measurements shall be taken in the same manner as set out in section 4 of Third Schedule and the results forwarded to the Chief Inspector at intervals as defined in the approval issued under the regulation.

(b) Where gamma radiation measurements indicate that a person working at a designated site may receive a radiation dose greater than 2.5 microsieverts/hour, a gamma radiation dosimeter of a type approved by the Chief Inspector shall be provided to, and worn by, each person who could be so exposed.

(c) A person working at a designated site shall not receive a dose to the whole body of more than 5 millisieverts in a period of one year.

(5) (a) Where exploration at a designated site ceases and any exposed surface or excavated material, including any drill cores, exploration samples and rock piles on the surface at that designated site, emits radiation above the level measured during the baseline survey at that location, the owner, agent, or Manager of the mine at the specified area shall, subject to paragraph (2) of this Schedule, ensure that the level of radiation is restored to a value not greater than 0.6 microsieverts/hour above the level of radiation measured at that location during the baseline survey, by covering the exposed surface or excavated material with suitable material.

(b) The owner, agent, or Manager shall, following the completion of the reclamation work, send readings of the level of radiation taken at the surface of a designated site within fourteen days to the Chief Inspector and the Zonal Inspector.

(c) The owner, agent, or Manager of the mine at a designated site need not comply with paragraph (5)(a) of this Schedule where any one of them has received an exemption from the Chief Inspector.

(d) The owner, agent, or Manager of a mine at a designated site shall take the steps necessary to minimise the risk of erosion of any cover material placed in accordance with paragraph (5)(a) of this Schedule.

(6) (a) The owner, agent, or Manager of a mine at a designed site shall where underground exploration of the designated site is being carried out, ensure that the air in all parts of the underground exploration area where persons work or through which they pass is sampled daily to determine the concentration of radon daughters and tested daily to determine the level of gamma radiation.

(b) The method of sampling and testing for radon daughters under subparagraph (a) shall be done in the manner required by Chief Inspector.

(c) The owner, agent, or Manager of a mine at a designated site shall, where underground exploration at the designated site is being carried out, ensure that—

(i) records showing the total exposure to radon daughters for each person who works in the underground exploration area at the designated site are kept at the designated site;

(ii) copies of the records referred to in subparagraph (c)(i) are sent to the Chief Inspector once a month and given to each person who has been exposed, during the month following that person's exposure; and

(iii) a person who works in the underground exploration area is not exposed to more than 0.2 working level months of radon daughters per quarter of a year, nor more than 0.4 working level months of radon daughters per year.

(7) The owner, agent, or Manager of a mine at a designated site shall cause signs prohibiting smoking to be posted at an underground exploration area at the designated site where a person has been or could be exposed to radon daughters while working there.

(8) (a) Where any entrances, pits or openings on a designated site are fenced or otherwise protected against inadvertent access, the owner, agent, or Manager of the mine at the designated site shall ensure that signs warning of radiation are kept posted at the designated site.

(b) No person shall enter into an underground exploration area at a designated site where signs warning of radiation have been posted at that site, unless the person is allowed to enter by the owner, agent, or Manager for the designated site.

(c) No person shall grant permission under subparagraph (b) unless the underground exploration area meets the requirements of this Schedule.

(9) No owner, agent, or Manager shall allow water from an underground exploration area at a designated site to be discharged or to escape into surface waters until—

(a) samples of the water from the underground exploration area have been taken and analysed for radioactivity and dissolved uranium by a laboratory experienced in analysing for radioactivity and dissolved uranium; and

(b) the results of the analyses under subparagraph (a) show that the water from the underground exploration area does not exceed—

(i) the Guidelines for Drinking Water Quality; or

(ii) the average background level of radioactivity or dissolved uranium in the water at the site by more than 10% of the water quality;

(c) the owner, agent, or Manager of a mine at a designated site shall ensure that copies of the test results referred to in subparagraph (10)(a) and (b) are forwarded to the Chief Inspector within fourteen days of receiving them from the laboratory.