

GOVERNMENT NOTICE No. 408 published on 22/10/2010

THE MINING (SAFETY, OCCUPATIONAL HEALTH AND
ENVIRONMENT PROTECTION) REGULATIONS, 2010

ARRANGEMENT OF REGULATIONS

Regulation *Title*

PART I

PRELIMINARY PROVISIONS

1. Citation
2. Application.
3. Interpretation.

PART II

MANAGEMENT AND RESPONSIBILITY IN MINES

4. Managers of the mines.
5. Appointment of the Manager.
6. Certificate of appointment of manager.
7. Registration of a Managers.
8. Where no Manager is appointed.
9. Appointment of competent persons.
10. Appointment of miner in charge .
11. Responsibilities of a manager.
12. Making of special rules.
13. Owner to provide manager with facilities.
14. Responsibility for contravention of regulations.
15. Deputing of work and supervision.
16. Posting up and supply of copies of regulations.
17. Regulations to be explained to illiterate employees.
18. Appointment of acting manager.
19. Obedience to orders.

PART III

GENERAL SAFETY PROCEDURES

20. Safety precautions to be observed.
21. Anything dangerous to be reported.
22. Intoxicated persons not to enter the mine.

23. Register of employees to be kept by the Manager.
24. Limiting of working hours.
25. Exemption by Commissioner.
26. Exemption by the Minister.
27. Withdrawal or alteration of exemptions, permit, etc.
28. Supply of drinking water.
29. Use of solder.
30. Lunch rooms.
31. Manager to provide separate facilities.
32. Change house requirement.
33. Underground waiting rooms or bays.
34. Underground toilets.
35. No deposition of faeces.
36. Powers and duties of Inspectors.
37. Independent study.
38. Special powers of Inspectors.
39. Evidence at inquest.
40. Powers of Commissioner.
41. Managers to provide facilities.
42. Offences and penalties.
43. Protection of surfaces.
44. Impairment and general conduct.
45. Working Conditions.
46. Procedures when working in confined space.
47. Precaution when working in harmful atmosphere.
48. Prohibition.
49. Workplace conditions.

PART IV
EMERGENCY PREPAREDNESS

50. Industrial first aid.
51. Mine rescue.
52. Emergency training.
53. Surface fire fighting.

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

54. Underground fire fighting.
55. Underground coal fire fighting.
56. Gas detectors.
57. Evacuation

PART V
MACHINERY

58. Reporting prior use of machinery.
59. Engineer to be incharge.
60. Plant and handling of machinery.
61. Inspection on machinery.
62. Operating of locomotives.
63. Handling of vehicles.
64. Requirement of belt driven machinery.
65. Convey or belt to device.
66. Oils to be kept in closed containers.
67. Fencing of moving parts.
68. Authorized entries prohibited.
69. Pressure vessels to be secured.
70. Mercury retorts to be sealed.

PART VI
WINDING AND TRAMMING

71. Winding system requirements.
72. Winding system to be approved by Inspector.
73. Winding system to be tested.
74. Repair of the winding system.
75. Winding system to be kept ready.
76. Operation of the hoist.
77. Passage to be kept clear.
78. Overhead clearance.
79. Power source.
80. Winding rope requirements.
81. Stop devices to be used.
82. Open hook to be used.
83. Chain requirements.
84. Control of winding engines.

85. Windlasses, whims and whimps.
86. Drum brakes.
87. Materials to be secured.
88. Shaft sinking.
89. Shaft requirements.
90. Winding signals.
91. Rules for winding in shafts.
92. Exemptions on manual winding.
93. Rules for winding in shafts.
94. Underground tramways.

PART VII

VENTILATION, GASES AND DUST

95. Blowpipes.
96. Wetting down.
97. Machine drilling not to be done dry.
98. International water feeds for machine drills.
99. Water blasts.
100. Ventilation.
101. No work in harmful way.
102. Withdrawal of workmen.
103. Action on exposure to harmful environment.
104. Permissible quantities of gas dust.
105. Precautions against harmful dust.
106. Internal combustion engines underground.
107. External combustion engine not to be used.
108. Deliver and storage of diesel.
109. Requirements for underground filling station.
110. Repair of diesel powered unit.
111. Ventilation plans to be kept.

PART VIII

PROTECTION IN WORKING PLACES

112. Entry in abandoned working.
113. Mine workings to be kept safe.
114. Working place to be made safe before entry.
115. Entry procedures during shaft sinking.

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

116. Protection against falling objects.
117. Systematic support to be provided.
118. Ore and waste passes to be secured.
119. Bearer, decking and anchorage to be secured.
120. Life line to be used.
121. Conditions for slyping.
122. Complaints to be investigated.
123. Complaints to be recorded.
124. Precautions during development of working.
125. Manager to take precautions.
126. Safety requirements when using belt conveyor.
127. Combustible matter not to be piled.
128. Requirements in surface working.
129. Hard hat to be worn.
130. Footwear to be worn.
131. Lamps to be carried.
132. Lighting to be provided.
133. Lamp room to be provided.
134. Care and maintenance of lamps.
135. Pillars to be maintained.

PART IX

OUTLETS, LADDERWAYS AND TRAVELLING WAYS

136. Shaft design.
137. Gate to be installed.
138. Counterweight compartment.
139. Ingress and egress.
140. Resting places to be provided.
141. Fixing of ladder.
142. Compartment to be bratticed.
143. Raising and lowering of persons.
144. No carrying materials in ladder ways.

PART X

MINE ACCIDENTS, INCIDENTS AND ENQUIRIES

145. Accident or dangerous occurrences.
146. Notification of accidents to persons.
147. Notification of non-causality accidents.

- 148. Register of accidents.
- 149. Inspector to investigate.
- 150. Inspectors to be protected.

PART XI

ELECTRICAL APPARATUS, WIRING AND LIGHTING

- 151. Application of safety code.
- 152. General provisions regarding electrical apparatus.
- 153. Diagrams of general electrical arrangement on mine.
- 154. Cutting off power at surface to apparatus underground.
- 155. Cutting off electric supply.
- 156. Restriction on voltages.
- 157. Testing of electrical apparatus.
- 158. Maintenance and protection of electrical apparatus.
- 159. Access to electrical apparatus.
- 160. Prohibition of damage to electrical apparatus.
- 161. Insulation.
- 162. Earthing.
- 163. Cables.
- 164. Flexible cables.
- 165. Switchgear and connections.
- 166. Blasting cables.
- 167. Transformers.
- 168. Telephone and signaling system.
- 169. Notices to be posted.
- 170. Persons operating electrical apparatus.
- 171. Permissible voltage.
- 172. Overhead lines.
- 173. Lines close to buildings.
- 174. Protection of supports.
- 175. Trolley lines and electrically propelled vehicles.
- 176. Battery and charging station requirements.

PART XII

DAMS, WASTE EMPLACEMENT, PUMPS AND PIPELINES

- 177. A major impoundment dam and waste dump.
- 178. Tailings impoundments.
- 179. Water controlling dams.

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

180. Pipelines design, manufacture and installation.
181. Notice for installation.
182. Pipeline to be tested.
183. Progress reports to be submitted.
184. Competent persons to examine pipelines.

PART XIII
EXPLORATION

185. Emergence faultiest to be availed at expiration site.
186. Electrical surveying system.
187. Uranium exploration.
188. Uranium samples to be tested.
189. Inspector to be notified.
190. Exploration samples outside the specified area.
191. Aircraft operations procedures.
192. Safety measures when operating aircraft.
193. Helicopter landing pad.
194. Acid generating strata.
195. Removal of excavated material.

PART XIV
RECLAMATION REQUIREMENTS, REHABILITATION BOND
AND MINE CLOSURE

196. Reclamation requirement standards.
197. Application of the reclamation standards.
198. Land productivity to be maintained.
199. Reclaimed land and structures to be stable.
200. Consideration for national heritage.
201. Reclamation of waste dumps.
202. Reclamation of water courses.
203. Reclamation of pit walls.
204. Considerations for reclamations before mine closure.
205. Manager to conduct monitoring.
206. Mine closure plan.
207. Rehabilitation bond to be posted.

PART XV
MISCELLANEOUS PROVISIONS

- 208. Mine plans to be kept up to date.
- 209. Copies to be deposited with the Commissioner.
- 210. Copies not to be availed to unauthorized person.
- 211. Plans to be updated on closure.
- 212. Noise levels.
- 213. Manager to reduce noise levels.
- 214. Notification and preparation of noise report.
- 215. Revocation.

SCHEDULES

THE MINING ACT, 2010
(NO. 14 OF 2010)

REGULATIONS

(Made under section 112)

THE MINING (SAFETY, OCCUPATIONAL HEALTH AND ENVIRONMENT PROTECTION)
REGULATIONS, 2010

PART I
PRELIMINARY PROVISIONS

- Citation 1. These Regulations may be cited as the Mining (Safety, Occupational Health and Environment Protection) Regulations, 2010.
- Application 2. Unless the context or where 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.
- Interpre-tation Act No. 14 of 2010 3. In these Regulations, unless the context otherwise requires-
“Act” means the Mining Act;
“Chief Inspector” means the Chief Inspector of mines appointed under section 19 of the Act;
“circuit” means an electrical circuit forming a system or branch of systems;
“conductor” means an electrical conductor so arranged as to be electrically connected to a system;
“Commissioner” has the meaning ascribed for it under the Act;
“covered with insulating material” means adequately covered with insulting material of such quality and thickness that removes the possibility or 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 another person;
“danger” means danger to health, life or limb through shock burn or

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

- other injury to the person or from fire attendant upon the generation, transformation, distribution or use of electrical energy;
- “dead” means connected to the general mass of earth in such manner that ensures 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 and so that the sensitivity and time response characteristics of the protection is consistent with the object of minimizing 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;
- “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;
- “inspector” means the Inspector of Mines appointed under Section 19 of the Act;
- “live” means electrically charged;
- “metallic covering” in relation to any electrical cable or conductor, means any metallic covering, armouring, sheath or pipe through which any conductor passes;
- “Manager” means the mine manager in charge of the whole mine including the processing plant;
- “portable apparatus” means any electrically operated apparatus which is designed to be held by hands while being operated;
- “prescribed geophysical equipment” means exposed electrodes used on induced polarization surveys;
- “qualified electrician” means a person who either holds a recognized certificate of competency as an electrician issued by a registered industrial council or has served a recognized apprenticeship;
- “serious personal injury” means permanent or partial incapacity of a person as defined in the Workers’ Compensation Act, 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: *

Cap 263

- “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 is only one live conductor, between that conductor and earth;
- “extra-low-voltage” means a voltage normally not exceeding thirty volts root-mean-square alternating current or one hundred volts direct current;
- “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;
- “high voltage” means a voltage normally exceeding six hundred and fifty volts.

PART II

MANAGEMENT AND RESPONSIBILITY IN MINES

Managers of the
mines

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

(2) A mining or allied operations shall not be carried out at any mine for a period exceeding seven days unless a Manager has been appointed for that mine.

(3) No more than one Manager shall be appointed in respect of any mine.

(4) Where the extent or any mine warrants it or special circumstances exist, the Commissioner may authorize or require the appointment of more than one Manager.

(5) A Manager authorized or required to be appointed in terms of sub-regulation (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.-(1) A Manager of a mine shall be appointed-

Appointment of
the Manager

- (a) in the case of a mine which is worked by the registered holder 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 or company;
- (c) in any other case not falling within sub-paragraph (a) or (b), by the person for whose benefit the mining operations are conducted.

(2) A person who is responsible for the appointment of Manager shall carry on mining or allied operations for a period of seven days without appointing a Manager.

6.-(1) A certificate of appointment of a 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.

Certificate of
appointment of
manager

(2) A certificate forwarded in terms of sub-regulation (1) shall be endorsed by the appointee signifying his acceptance of the appointment.

(3) Where the Commissioner, after consultation with an inspector is not satisfied, having regard to the nature of the mining operations 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 in English language 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,

the Commission may, in writing, notify the person who made the appointment accordingly and require him, within such period as the Commissioner may specify, to appoint another person as Manager of the mine, and such first mentioned appointment shall become void and of no effect.

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

(5) Where a person appointed to be the Manager of a mine

Mining (Safety, Occupational Health and Environment Protection)

G. N. No. 408 (contd.)

ceases for any reason to be the Manager of that mine, the person responsible for the appointment of his successor shall immediately give written notification to an inspector in area where the mine is situated, of the fact that such first mentioned person has ceased to be the Manager of the mine.

Registration of Managers

7. Every person appointed as Manager in term of these Regulations shall be registered by the inspector of the area within which the mines is situated.

Where no Manager appointed

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

Appointment of competent persons

9.-(1) Subject to sub-regulation (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; and
- (b) the Commissioner may require the appointment of one or more competent persons and subordinates managers at any time where it is necessary.

(2) The appointment of person in terms of paragraphs (a) and (b) of sub-regulation (1) shall not be taken to relieve the Manager of any personal responsibility under these Regulations;

(3) In every case where the activities at a mine involve blasting operations, either on surface or underground, the Manager of the mine shall appoint one or more competent persons to supervise blasting operations.

Cap

(4) All persons so appointed shall be holders of appropriate class of blasting certificate as provided under the Explosive Act.

(5) Any appointment made under sub-regulations (1) and (3) shall be entered in ink in the register kept expressly for the purpose, which shall include-

- (a) the name of the person appointed;
- (b) particulars of his appointment; and

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

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

(6) Entries in the register referred to in sub-regulation (3) shall be signed by the manager and the person appointed, and unsigned entries shall be of no force or effect.

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

(2) Any appointment made under sub-regulation (1) shall be entered in ink in a register kept exclusively for that 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 shall be signed by the person making the appointment concerned and the person appointed so that unsigned entries shall have no legal effect.

11.-(1) So that Manager of a mine shall-

Responsibilities
of a Manager

- (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 9 and 10 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, are at all times clearly marked and, subject to sub-regulation (2), ensure that the miner in charge or blasting certificate holder who is responsible for the safety of these working places such working places and all approaches thereto before any other person;
- (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 anytime;
 - (ii) any person who knowingly fails 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) where necessary , provide and maintain in working order, both underground and on the surface, adequate and suitable fire- fighting 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 plants, materials and other things necessary for compliance with these Regulation to be provided and maintained in good order and repair.
- (2). Nothing in paragraph (f) of sub-regulation (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
- 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 lasting certificate holder.

12.-(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.

Making of
special rules

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

(2) Where the Commissioner approves rules submitted to him under sub-regulation (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) Where 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 confirm, revoke or alter the rule concerned.

(5) Where, and as long as rules made under this regulations are posted up as required by sub-regulation (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 commits an offence and on conviction shall be liable to a fine not exceeding one hundred thousand shillings or to imprisonment for a term not exceeding three months or to both.

Owner to
provide Manager
with facilities

13. 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.

Responsi-bility
for
Contrive-ntion
of regulations

14. Where a contravention of any provision of these Regulations occurs at a mine, the Manager or the person appointed under Regulation 18 to act in the absence of the Manager and any person duly appointed under Regulations 9 and 10, 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 commits 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

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

regard to the provision or contraventions concerned.

15. A person shall not, without the sanction of his supervision-

Deputing of
work and
supervision

- (a) depute any other person to do his work; or
- (b) cease to supervise persons under his charge.

16. For the purpose of making known the provision of these Regulations to all persons employed in and about the mine-

Posting up and
supply of copies
of regulations

- (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 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.

17. Where any employee is unable to read these regulations or the abstract referred to in Regulation 16, the Manager shall ensure that such employee is made acquainted with the Regulations concerning him or appertaining to his particular occupation and duties.

Regulations to
be explained to
illiterate
employees

18. Wherever a Manager is absent from a mine for a period exceeding twenty-four hours, he shall appoint in writing in the manner prescribed under Regulation 9 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.

Appointment of
acting Manager

19. A person shall not fail to obey any order or notice given to him in accordance with or for the proper observance of the

Obedience to
Orders

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

requirements of these Regulations or any order whatsoever given in the interests safety, health or discipline by any person authorized to give such order.

PART III

GENERAL SAFETY PROCEDURES

Safety precautions to be observed

20. (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.

Anything dangerous to be reported

21.-(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 sub-regulation (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.

Intoxicated persons not to enter the mine

22.-(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

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

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.

23. Every Manager shall keep at his mine a register in which shall be duly entered-

Register of employees to be kept by the Manager

- (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 sub-regulation (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 at 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.

24. Where, the Commissioner is satisfied that such action is necessary for the preservation of the health of mine, by notice communicated to a Manager in writing-

Limiting of working hours

- (a) limit the number of hours of continuous employment of such workers on a mine or any section;
- (b) limit the number of such workers employed in 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; or
- (e) impose conditions as to the employment of any class of workers.

25.-(1) Without derogation from any other provision relating to exemption, where-

Exemption by Commissioner

- (a) the circumstances at any mine are such that any

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

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.

- (2) An exemption made under this Regulation shall not-

- (i) be granted for a period of more than twelve months; and
- (ii) be renewed or extended except by the Commissioner for a further period not exceeding twelve months, and thereafter by the Minister under regulation 26.

Exemption by the Minister

26. The Minister may in writing exempt 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.

Withdrawal or alteration of exemptions, permit, etc

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

Supply of drinking water

28. The Manager shall supply drinking water that conforms to 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.

Use of solder

29. 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.

30. 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-

Lunch rooms

- (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.

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

Manager to provide separate facilities

- (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; adequate number and separate toilet facilities for male and female employee.

(2) The facilities shall have separate approaches with signs clearly indicating for either sex separately.

32. A change house shall-

Change house requirement

- (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. Waiting rooms or bays in underground mine shall be conveniently located in well ventilated area, with sufficient light and necessary facilities; and maintained in hygienic condition having regards to the number of employees in the various parts of the mine.

Underground waiting rooms or bays

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

Underground
toilets

34. 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 hygienic condition and have all waste material removed regularly.

No deposition of
faeces

35. A person shall not deposit faeces or urine in any place in a mine other than a deposition toilet.

Powers and
duties of
inspectors

36.-(1) 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.

(2) 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.

(3) Notwithstanding sub-regulation (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 sub-regulations (2) to discuss his findings and their safety and occupational health concerns if any.

(4) 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.

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

- (a) for immediate remedial action;
- (b) to suspend regular work until remedial action is taken;
- or
- (c) to close the mine or part of it until remedial action is taken.

(6) The Manager shall, within fifteen 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.

(7) 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.

(8) 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.

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

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

(10) 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.

(11) 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.

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

Independent
study

37.-(1) 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-

- (a) in respect of safety and health at the mine or safety of its equipment, buildings, workings, or structures; or
- (b) in connection with an accident or dangerous occurrence that the Inspector is investigating;

(2) Subject to regulation 36(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

(3) No action for damages because of anything done or omitted to be done in good faith-

- (a) in the performance or intended performance of any duty; or
- (b) 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.

(3) Regulation 36 (1) does not absolve the Government 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 regulation were not in force.

(4) 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.

38.-(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-

Special powers
of Inspectors

- (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 stop 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 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 Chief Inspector who shall investigate and decide on the matter;
- (d) if the Manager objects to comply with the decision of the Chief Inspector, the Manager shall refer the matter to the Commissioner whose decision shall be final.
- (e) the Manager shall comply within fourteen (14) days with a decision of the Chief Inspector which is made under paragraph (c) or the Commissioner which is made under paragraph (d).

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

Evidence at inquest

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

Powers of Commissioner

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

Managers to provide facilities

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

Offences and penalties

42.-(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 with shall be guilty of an offence.

(2) Any person who is guilty of an offence in terms of sub-regulation (1) shall be liable to a fine of five million shillings or imprisonment for a period of one year or to both.

Protection of surfaces

43.-(1) Where mining operations have caused subsidence 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) A 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 condictions 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.

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

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

(7) Where 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 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 reservoirs or other stagnant water without having been previously rendered innocuous.

(11) A person who neglect to comply with the provisions laid down in sub-regulations (6) and (7) commits 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.

44.-(1) A person shall not-

- (a) 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;

Impairment and
general conduct

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

- (b) engage in any improper or foolhardy behaviour such as horseplay, scuffling, fighting, playing practical jokes, or other conduct that might create or constitute a hazard to himself or any other person;
- (c) 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.

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

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

(4) 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.

Working
Conditions

45.-(1) The Manager or a person authorized 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

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

equipment, or where the work process is 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 is 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 paragraphs (a), (b) and (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 a 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.

46. 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.

Procedures when
working in
confined spaces

(2) Subject to sub-regulation (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.

Precaution when
working in
harmful
atmosphere

47.-(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 sub-regulation (1) (a).

(3) Where tests made under sub-regulations (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 sub-regulations (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.

48. A person shall not-

- (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.

Prohibition

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

- (2) A person shall not 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.
- (5) 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.

Workplace conditions

- 49.-(1) The Manager shall not-
- (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 level 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

Industrial first aid

- 50.-(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 sub-regulation (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.

51.-(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. Mine rescue

(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 inspector and ensure that personnel are adequately 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 coordinator 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 poses 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 sub-regulation 9.

(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 sub-regulation (9) shall record in a suitable logbook-

- (a) the dates and times of all team practices; the names of those attending and absent, if any, with reasons for their absence,
- (b) a brief description of what was practiced;
- (c) the equipment used and its condition at the end of the practice session; and
- (d) 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 practice 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 anyone 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.

Emergency
training

52. The Manager shall ensure that every hoist man training to use and cage attendant who may be required breathing apparatus is trained in its proper use.

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

(2) Every hoist man 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 retrained annually in survival rescue procedures, including the use of self-rescue apparatus authorized 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.

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

Surface fire
fighting

Cap....

(2) The Fire and Rescue Services Act, shall apply in determining the level of fire fighting equipment and maintenance as prescribed in sub-regulation (1).

54.-(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, fuelling stations, and where a fire hazard may exist.

Underground
fire fighting

(2) At least two 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 sub-regulation (2) shall be such that, in the event of a fire, the direction of the mine ventilation airflow 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.

(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 lodged 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 sub-regulation (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, fire stations, and fire cabinets shall be shown on a plan drawn to a scale of not less than 1: 2500 with a metric scale bar and a marked north point. The plan shall be updated at intervals not exceeding three month.

Underground
coal fire
fighting

55.-(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) 20 m 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; and
 - (d) at suitable central points in room and pillar workings.

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

- (a) a branch pipe and nozzle of 40 mm 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 40 mm and a working pressure of 1000 kpa.

(4) 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.

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

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

- (a) not less than 120 m of fire hose with couplings, branch pipe, and nozzle of 40 mm minimum inlet diameter designed to a working pressure of 1000 kpa;
- (b) a backup supply of fire extinguishers; and
- (c) a supply of sand bags or equivalent acceptable to the Inspector.

56.-(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.

Gas detectors

(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 authorized 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, no attempt shall be made to relight the lamp if the presence of flammable gas is suspected.

57.-(1) The Manager of a mine shall-

Evacuation

- (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 procedure in conspicuous places at the surface and underground; and
- (c) ensure that each employee receives instruction in the procedures prepared under sub-paragraph (a) and that he can recognize 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 sub-regulation (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

Reporting
prior to use of
machinery

58. The Manager shall report to the inspector at least fourteen days prior to bringing into use any boiler or any steam, oil 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.

Engineer to
be incharge

59.-(1) A competent engineer shall be in charge of any plant the indicated horsepower of which is over fifty.

(2) This provision shall not be deemed to exonerate the licensee and his agent from responsibility of ensuring that any plant of fifty horse-powers or less is used only under proper supervision.

Plant and
handling of
machinery

60.-(1) All machinery used or to be used in or about mine shall be-

- (a) suitably designed for safety in the use made or to be made of it;
- (b) installed and maintained in a safe and serviceable condition; and
- (c) 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.

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

61.-(1) The inspector may at any time require a licensee or Manager or his agent to prepare any machinery or plant for his inspection.

Inspection on
machinery

(2) For the purpose of sub-regulation (1), not less than one week's notice in writing of the date which he intends to hold the inspection shall be given by the inspector.

(3) Where 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.

(4) 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.

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

Operating of
locomotives

(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.

(5) All couplings shall be maintained in a safe and serviceable condition.

(6) Subject to sub-regulation (6), a person other than the driver shall not ride on a locomotive.

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

63.-(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.

Handling of
vehicles

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

- (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 advise 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) limitation on travel by persons and any other appropriate information to be displayed in traveling 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) 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.
- (5) Supplies, materials or tools other than small hand tools, 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.
- (6) The bucket of any shovel, loader or other loading machine shall not traverse over the operator's cabin of any vehicle during loading operations.
- (7) 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.
- (8) The operator shall not leave or enter the operator's cabin of any vehicle during loading operations.
- (9) 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

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

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.

64.-(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.

Requirement of belt driven machinery

(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.

65. A belt conveyor used in, on or about a mine shall have a device that will cut off to have device 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.

Convey or belt to device

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

Oils to be kept in closed containers

67. 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.

Fencing of moving parts

68.-(1) A notice that unauthorized entrance into any place where machinery or steam boilers are erected is prohibited shall be posted up at all entries.

Authorized entries prohibited

(2) No person not properly authorized in that behalf shall remove or render useless any fencing, means of signaling, 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.

69. All cylinders and receivers for air and gas of a higher pressure than 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).

Pressure vessels to be secured

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

Mercury retorts
to be sealed

70.-(1) All retorts used for gold-mercury amalgamation shall be sealed tightly to avoid any leakage of mercury vapour and the tight seal shall be tested and certified by a recognized 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

Winding
system
requirements

71.-(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 sub-regulation (1).

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

Winding
system to be
approved by
Inspector

72.-(1) The Manager must ensure that no winding system, machinery, plant or to be approved 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 may be subject to such conditions as the Chief Inspector thinks fit and specifies in the approval.

(3) An approval for winding system for raising or lowering persons is also subject to other conditions provided under this Part.

(4) 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.

(5) 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.

73. The Manager must ensure that before a winding engine is used at the mine-

Winding system to be tested

- (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 paragraph (b) has taken place.

74.-(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-

Repair of the winding system

- (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 sub-regulation (1).

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

(4) The Manager shall 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) Where any notification is received under these regulations, 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 shall 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.

Winding system to be kept ready

75. 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 kept ready 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.

Operation of the hoist

76.-(1) A person shall not operate a hoist and the Manager shall not permit a person the hoist 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 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.

(4) 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.

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

77. Every shaft and every cage, counter balance, skip and kibble, winding kept clear 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.

Passage to be kept clear

78. In an inclined shaft the overhead clearance for a person traveling in a conveyance in such shaft shall be at least 100 millimeters 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 millimeters.

Overhead clearance

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

Power source

80.-(1) Ropes used for winding purpose shall be in good condition and of good quality and manufacture.

Winding rope requirements

(2) Every rope used for winding purposes in shafts or winzes over thirty meters 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.

(3) 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.

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

(5) 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.

(6) 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 millimeters along the rope towards its other end.

(7) 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.

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 108 (contd.)

Stop devices
to be used

81.-(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 meters, the winding engine shall be provided with a 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.

Open hook to
be used

82. 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 the purpose.

Chain
requirements

83.-(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 shall ensure that coupling chains which are attached to a shaft conveyance-

- (a) are at least two in number;
- (b) have identical dimensions;
- (c) are parallel and vertical; and
- (d) have a combined factor of safety of not less than 20, however many chains used.

Control of
winding
engines

84.-(1) Where a winding engine is being used for the carried of persons while operating under push-button control, it shall be incapable of motion unless all engines 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 the carriage of material and shaft gate at a landing are open, the winding engine shall, when within 10 meters of that landing, be capable of inching motion only.

Mining (Safety, Occupational Health and Environment Protection)

(i.N. No. 408 (contd.))

85. Windlass, whims and whimps in used at shaft and winzes shall be provided with 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.

Windlasses,
whims and
whimps

86. Where winding is effected by means of an engine an adequate brake shall be attached to every drum and kept in proper working order so that-

Drum brakes

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

87. 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.

Materials to
be secured

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

Shaft sinking

(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 meters 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 will 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 or water, sufficient protection shall be provided by suitable covering.

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

(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.

Shaft
requirements

89.-(1) Vertical shafts exceeding thirty meters in depth shall be provided with guides requirements for kibbles.

(2) At every shaft station where it is necessary for workmen 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 purpose 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 provided that persons are not prohibited from working below the lowest point from which winding is taking place; provided that such persons are securely protected by a suitable covering.

(5) The word "repairs" used in this Regulation shall be taken to include the oiling of rollers and pulleys.

Winding
signals

90.-(1) Every winding shaft if exceeding sixteen meters 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 person, in addition to the system of signals between top and bottom of the shaft provided for under sub-regulations (1) and (2) a separate set of signals the shaft top and the engine driver.

(4) The engine driver is prohibited from starting 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 authorized by the Manager or mine overseer are allowed to give a signal.

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

- (a) 1 - Raise, when engine at rest;
- (b) 1 - Stop, when engine in motion;
- (c) 2 - Lower;
- (d) 3 - Men about to ascend or descend;
- (e) 3 - In reply, men may enter cage or other conveyance.

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

(8) 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.

(9) Special signals in addition to the above may be 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.

(10) 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 centimeter by fifty centimeters in the form of a distinctly legible notice in Kiswahili language and in English language, 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.

(11) 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.

91. In addition to conditions contained in these Regulations, permission to operate a winding system for raising or lowering persons shall not be granted unless the provisions immediately preceding this Regulation have been complied with so far as they are applicable and unless the following special conditions are observed-

Raising or
lowering of
persons.

- (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 centimeters, 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 of doubling the authorized load of the cage or skip; provided that in estimating the authorized load seventy five kilogrammes 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 meters in which the cage or similar contrivance can travel freely in case of an overwind: Provided that 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.
- (d) 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 which includes the weight of rope in the shaft at the lowest working point;

- (e) 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, 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 authorized 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 authorized extent and 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 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 and 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 meters in depth ring a bell in the engine room when the conveyance is 20 meters from the top landing place;

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

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

Exemptions
on manual
winding

92. Prospecting shafts where winding is done by manual or animal power may be exempted from compliance with the provisions of Regulations 86, 89, 90(1), and 91 by the inspector.

Rules for
winding in
shafts

93. Where, winding in shafts in accordance with Regulation 92 is permitted, the following rules shall be strictly observed:

- (a) one, or more than one, competent person, specially authorized 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 their safety catches, the pulley wheels and all and every essential 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 signaling 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, and 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.
- (v) the record book shall at all times be open for the inspection of the inspector.
- (b) Where, 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;
- (c) as soon as the rope becomes defective it shall no longer be used for the transport of persons unless damaged part be at the end and be cut off;
- (d) at every mine where persons are raised or lowered, at least one spare rope of the description as provided or in Regulation 91(d) shall always be kept reserve ready for use;
- (e) special instructions shall be issued by the Manager forbidding access to signal wired 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;
- (f) 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;
- (g) riding in partially loaded cages, skips or buckets is only permitted to persons incharge of underground works, sinkers and to workmen employed to do repairs in the shafts just as it would apply to

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

- unprotected cages, skip or buckets in vertical or steeply inclined shafts;
- (h) 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;
 - (i) a person traveling in a cage or other conveyance is not allowed to change place therein whilst the conveyance is in motion;
 - (j) 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;
 - (k) 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 place;
 - (l) 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 give by a qualified banksman who shall be responsible for the observance of the rules referred to in paragraphs (f), (g), (h) and (i) and that the correct signals are given and the doors and cover of the cages properly fixed.

Underground
tramways

94. This Regulation shall apply to underground tramways:

- (a) Where traction is operated by machinery a signaling 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 meters in length some efficient means of communicating distinct signals between the stopping places shall be provided;
- (c) in either of the cases of paragraph (a) or paragraph (b)

where persons are allowed to travel, places of refuge (manholes) at intervals of not more than 16 meters shall be provided and if there is not ample room for a person to stand between the moving trucks and the wall;

(d) every place of refuge shall be constantly kept clear.

PART VII

VENTILATION, GASES AND DUST

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

Blowpipes

(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.

96.-(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 in this sub-regulation for such period as he may deem necessary.

Wetting down

(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.

(3) Notwithstanding sub-regulation (2), the inspector may grant written exemption from the operation of this sub-regulation for such period as he may deem necessary.

(4) Where the inspector refuses to grant exemption in terms of sub-regulation (1) and (2), an appeal against such refusal may be made to the Commissioner whose decision shall be final.

97.-(1) A person shall not use or cause or permit to be used any machine drill in the underground workings of any mine unless-

Machine drilling not to be done dry

(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.

(2) Where the structure of working conditions of a mine are such that due observance of the provisions of paragraph (a) of sub-regulation (1) is impracticable, an inspector may grant written exemption from the operation of sub-paragraph (a) of sub-regulation (1) 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.

International
water feeds for
machine drills

98.-(1) A person shall not use or cause or permit to be used any percussion-machine drill fitted with an internal water feed 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 chunk to its fullest extent, the water tube:
 - (i) enters the axial hole in the steel shank for a distance of at least twenty five millimeters; or
 - (ii) falls short of the shank of the drill steel by not less than six millimeters and not more than twenty five millimeters and is perfectly in line with the axial hole of the drill steel.

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

(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 sub-regulation (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 might endanger health.

(5) A person shall not block or otherwise obstruct any of the

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

front head release ports if 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 odorless.

99.-(1) Where compressed air is available, every working development end which has advanced of eight meters or more shall be provided with a waterblast approved by an inspector which shall-

Water blasts

- (a) discharge within a distance of not more than fifteen meters 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 sub-regulation (1) the inspector may, by notice in writing, permit the Manager of a mine to vary the provisions of paragraph (a) or (b) of sub-regulation (1).

(3) The waterblast referred to in sub-regulation (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.

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

ventilation

(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) An auxiliary fan shall not 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.

101. A person shall not 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-

No work in harmful air

- (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.

Withdrawal of workmen

102.-(1) Where 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 sub-regulation (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 sub-regulation (1) shall be recorded by 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.

Action on exposure to harmful environment

103.-(1) Where 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 excessive amounts of harmful smoke, gas, fumes or dust 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 sub-regulation (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 sub-regulations (1) and (2) shall be record in ink in the book, which shall all times be available for inspection by an Inspector.

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

Permissible quantities of gas dust

- (a) the amount of carbon dioxide shall not exceed five thousand parts per million (0.5 per centum) of air 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) 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) or 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 milliliter per hour period;
- (b) in this sub-regulation-
"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.

105.-(1) Where rock, ore coal or other mineral or mineral compound is reduced in size, screened, moved, handled or

Precautions against harmful dust

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 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 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, 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.

Internal
combustion
engines
underground

* 106.-(1) Except as provided for in sub-regulation (8), no internal combustion engine, other than a mobile diesel engine until, 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 authorized 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 sub-regulation shall be by ink in a book provided by the Manager which 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 a 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 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 sub-regulation (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 gas;
- (c) the places where and the purpose for which the engine is to be used; and
- (d) under such other terms and conditions as the Chief Inspector may stipulate.

External combustion engine not to be used

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

Deliver and storage of diesel

108.-(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.

Requirements for underground filling station

109. Every underground filling station where diesel-powered units are refueled shall-

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

(2) Refueling of diesel-powered mobile units underground shall

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

be Carried out at a properly established filling station complying with the provisions of sub-regulation (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) An unauthorized person shall not enter any filling station and no person shall smoke or use an open light in the vicinity of any filling station.

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

Repair of diesel powered unit

- (a) adequately ventilated and be of sufficient 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.

111.-(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.

Ventilation plans to be kept

(2) The tracing or print required by sub-regulation (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

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

and subject to such conditions as he may specify.

(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

Entry in
abandoned
working

112.-(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 authorized 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 gage, 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.

113. All shafts, drives, raises, winzes, ramps, stopes and other workings of any kind to be kept safe 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.

Mine workings to be kept safe

114.-(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 entry certificate holder in charge who for the time being is responsible for the safety of such place.

Working place to be made safe before entry

(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) Where 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 remove all dangerous, loose or loosened rock or ground, in which work he may be assisted by persons working under his personal supervision and control.

115.-(1) When, at a mine, a shaft or steeply inclined winze is being sunk-

Entry procedures during shaft sinking

(a) the miner or blasting certificate holder in charge shall,

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

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

(4) The use of lifeline as required by sub-regulation (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 lifeline is under the immediate supervision of a competent person.

(5) A person shall not 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 all lifelines or wears a life-jacket.

Conditions for slyping

121.-(1) At any mine where any shaft, raise or winze directly connected to any other slyping mine working and where such shaft, raise or winze is being enlarged by slyping, the following conditions shall apply 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 operations so as to prevent any possibility of closure of the bottom of such shaft, raise or winze.

(2) A slyping hole shall not 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.

(3) 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.

(4) In the event of any build-up of water above the blockage, immediate steps shall be taken to remove such water from above.

(5) After removal of such water from above the 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.

(6) In the event of any such known or suspected hang-up or build-up or 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.

(7) 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.

(8) An operation shall not take place at the lowest lashing point of such shaft, raise or winze until all lashing has been completed at the slyping face or such shaft, raise or winze.

(9) Precautions shall be taken-

- (a) to prevent the inflow of water other than drilling water, into such shaft, raise or winze from any source around the mouth or such shaft, raise or winze;
- (b) to ensure that the inflow or any water, from any fissure within the slyped or unslyped portion of such shaft, raise or winze, causes no danger to any person.

122.-(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 investigated or work in the place complained or until he has made such place safe or has had it examined by an official as to the safety of such place.

Complaints to
be
investigated

(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.

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

Complaints to
be recorded

123.-(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 initialed 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 inspection by the Inspector.

Precautions
during
development
of working

124.-(1) In every working in mine approaching a place likely to contain a dangerous accumulation of mud, water or gas, boreholes shall be kept in advance of the development 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 meters, work on one face shall cease during the blasting operations on the other and where the distance apart has decreased to five meters, 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 meters in any direction;

(b) where one working is within five meters 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 sub-regulation (2) of regulation 124 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.

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

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

Manager to take precautions

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

(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 rock pass which has become blocked shall clear only in accordance with a procedure laid down by the Manager or an official.

126. In every mine, both on surface and underground in which a belt conveyor is required to be used-

Safety requirements when using belt conveyor

(a) the Manager shall draw up and enforce a code of safety practice for the belt conveyor operation, maintenance and patrolling of the conveyor system; suitable and adequate means for extinguishing fires shall be available for immediate use along every belt conveyor;

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

(c) 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;

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

(d) 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

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

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

Combustible matter not to be piled

127.-(1) 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.

Requirements in surface working

128.-(1) In any opencast 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 meters (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 sub-regulation shall not apply where-
 - (i) the working or digging is done by mechanical equipment which does by 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 of sidewall, no fall or dislodgment of any earth or other materials is likely to occur so as to endanger persons employed there.

(2) In every opencast 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 meters from the edges of such opencast working or quarry.

(3) In digging any trench, pit or other similar working in gravel, clay, tailings, similar working in gravel, clay, soils, tailings, slimes, ash, debris or other such ground 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 meters (1.5) unless such face or sloped at an angle sufficient to ensure the safety of persons. Provided that this sub-regulation 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.

(3) 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 meter from the edge thereof to avoid danger to any person occurring from such waste or loose material falling into such trench, pit or working.

(4) Notwithstanding sub-regulation (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.

129.-(1) A person shall enter or remain in or be caused or permitted to enter or remain in the workings of a mine unless he wears a hard hat in good condition and of an approved type.

Hard hat to be worn

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

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

Footwear to be worn

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

131.-(1) A person shall not 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.

Lamps to be carried

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

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

Lighting to be provided

132.-(1) Suitable and sufficient permanent lighting shall be provided and maintained at provided 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 person 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 sub-regulation (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.

Lamp room to be provided

133.-(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. 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 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.

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

Care and maintenance of lamps

(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 willfully damaged a lamp shall be guilty of an offence.

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

Pillars to be maintained

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

(3) On the joint application of the owners of the adjoining mines.

(4) In the absence of joint application referred to sub-regulations (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 sub-regulations (3) and (4) shall be clearly shown on the underground plans.

PART IX

OUTLETS, LADDERWAYS AND TRAVELLING WAYS

136.-(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 another shaft conveyance or counterweight or with any shaft furnishing;
- (c) have underwind clearances that exceed the stopping distance of any shaft conveyance when traveling 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

Shaft design

traveling way or ways shall be used in ascending and persons 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.

No carrying materials in ladder ways

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

PART X

MINE ACCIDENTS, INCIDENTS AND ENQUIRIES

Accident or dangerous occurrences

145.-(1) In the event of any accident causing loss of life or serious personal injury or dangerous occurrence 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) wherever 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.

Notification of

146.-(1) The accident to be notified for the purposes of this

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

section, shall be as follows-

accidents to
persons

- (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 totaling 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 sub-regulation (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 of these Regulations.
- (3) When an accident referred to in paragraph (c) of sub-regulation (1) becomes notifiable for the purpose 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 case 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 a accident referred to in sub-regulation (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.

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

Notification of
non-causality
accidents

147. Where person 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.

Register of
accidents

148.-(1) At every mine a register shall be kept in which there shall be recorded in ink, non-causality without delay, the particulars of all accidents at that mine which are required to accidents be reported under regulations 144 (2) or 146.

(2) The register referred to in sub-regulation (1) shall be available for inspection by the Inspection.

Inspector to
investigate

149.-(1) Notwithstanding the provisions of regulation 144 (1) the Inspector shall, investigate make 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 sub-regulations (1), order further investigation.

Inspectors to
be protected

150. 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

Application
of safety code

151.-(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 Safe Code for the electrical wiring of premises when it is applicable.

(2) In the event of any inconsistency in the provisions of these Regulations and the code referred to in sub-regulation (1) the provisions of these Regulations shall prevail.

(3) In this Part reference to a specific voltage shall be

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

construed as including a reference to any voltage falling within a permissible variation there from prescribed by the Safety Code.

- 152.-(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 apparatus normal use; and
 - (c) properly maintained in a safe condition.

General provisions regarding electrical apparatus

(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 transportable apparatus operating 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 unless it was specifically constructed for operation under wet or dirty conditions shall be kept clear of obstruction.

153. At any mine at which there is installed electrical apparatus operation 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.

Diagrams of general electrical arrangement on mine

154.-(1) There shall be provided at the surface at every mine in which there is installed below ground electrical apparatus, other than telephone and signaling apparatus, suitable switchgear for cutting off the supply of electricity to such apparatus.

Cutting off power at surface to apparatus underground

(2) Efficient arrangements shall be maintained whereby a competent person is in underground attendance at the mine or readily available on call for the purpose of operation 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.

Cutting off
electric
supply

155.-(1) There shall be provided-

- (a) in relation to every electrical circuit at every mine, electric supply whether at the surface or below ground such effective means suitably placed for cutting off supply of electricity to that circuit as may be generally 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.
- (b) in relation to every electrical circuit at every mine, whether at the surface or 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.
- (c) 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.
- (d) 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.

(2) 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.

156.-(1) Electricity at a voltage exceeding low voltage shall not be applied to-

- (a) any transportable apparatus; provided that voltages may be applied to such apparatus with the prior approval in writing of the Chief 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.

157. The Manager shall ensure that there is in force a schedule for the systematic for electrical inspection, examination and testing practicable the safety of persons.

Testing of electrical apparatus

158.-(1) All electrical apparatus shall be so installed as to minimize the danger of fire and protection arising there from and shall be kept dry.

Maintenance and protection of electrical apparatus

(2) No inflammable or explosive material shall be stored in any room or compartment containing operating electrical apparatus.

(3) Every electricity-generating plant and all main substation transforming and switching equipment shall adequately fenced off or enclosed and notices in Kiswahili language and English language at all designed places of ingress and, when such plant or equipment is unattended by an authorized person all designed places of ingress shall be kept closed and locked to prevent unauthorized access.

(4) All switchboards created after the application of these Regulations shall have at the back a clear space of at least one and half meter and such a space shall not be obstructed in any manner.

159.-(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.

Access to electrical apparatus

(2) All handles referred to in sub-regulation (1) shall be kept free of obstruction and be conveniently placed for operation.

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

- (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 minimize 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.

Flexible
cables

164.-(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.

Switchgear
and
connections

165.-(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 connections 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

(2) 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.

(3) 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.

(4) 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.

166.-(1) Every blasting cable shall be readily identifiable some specific colour or colouring.

Blasting
cables

(2) Blasting cables shall not be used for any other purpose other than blasting.

(3) Current from telephone, signaling 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.

167. In any transformer at a mine suitable provisions shall be made to guard against danger arising from the charging of lower voltage components by contact with or leakage from higher voltage components.

Transformers

168.-(1) Adequate precautions shall be taken to prevent any telephone wire or signaling conductor coming into contact with any cable or electrical apparatus connected to higher voltage systems.

Telephone
and signaling
system

(2) Contact makers in telephone or signaling apparatus shall be so constructed as to prevent the accidental closing of the circuit.

(3) In any electrical signaling system where failure or disconnection would likely to cause a dangerous situation due to loss

of signaling facilities a means of verbal communication or alternative signaling shall be provided.

Notices to be posted

169. 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 minimize 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.

Persons operating electrical apparatus

170.-(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 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 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 dead until he is satisfied that it will remain dead until he is satisfied that it is safe to restore the current; Provided that this sub-regulation 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 authorized in writing by the Manager to carry out duties incidental to the generation, transmission, distribution or use of electrical energy.

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

(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 which 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.

171.-(1) Subject to sub-regulation (2), the maximum permissible voltage for lighting underground shall be-

Permissible
voltage

- (a) one hundred and thirty volts alternating current between line and earth;
- (b) two hundred and twenty-five volts between phase (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) The provisions of sub-regulation (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.

The maximum permissible voltage for lighting on the surface shall be two hundred and twenty-five volts alternating or direct current to earth.

172.-(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.

Overhead
lines

(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

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

surface shall be four comma nine meters for voltages not exceeding medium voltage and five comma five meters 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 meters (4.6m) above ground.

(4) The minimum height above road or rail surface of any line conductor or earth wire shall be five comma eight meters (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 power line.

(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.

Lines close to buildings

173.-(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 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.

(2) 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 meters from the ground, be insulated and, in the case of a high voltage conductor, shall have earth metal sheathing or earthed screening.

(3) 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.

(4) 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 meters.

(5) The provisions of sub-regulation (4) shall not apply to an overhead cable consisting of insulated conductors enclosed in earthed metal sheathing or armouring.

174. Every support which carries overhead conductors or other electrical apparatus and shall be adequately protected to prevent any unauthorized persons from coming electrically into dangerous proximity to the conductors by climbing such support.

Protection of supports

175.-(1) Unless otherwise authorized in writing by the Chief Inspector, a trolley line vehicle conductor system shall be effectively protected throughout its length against the danger of persons making inadvertent contact with the current carrying parts.

Trolley lines and electrically propelled vehicles

(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 meters.

(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 meters of the rack rail; and
- (c) the resistance of the whole track system is not greater than four times the resistance of the whole track system is not greater than four times the resistance of the overhead trolley conductor.

(2) 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.

(4) The supply of electricity shall be cut off from any trolley line system which is not in regular daily use.

(5) There shall be provided on any locomotive exceeding eight tones 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.

(6) Control levers of electrically-propelled vehicles shall be so arranged that such levers cannot accidentally be removed whilst there is a supply of electricity to the driving motors.

Battery and
charging
station
requirements

176.-(1) No person shall charge or change any battery of any storage-battery locomotive or storage-battery vehicle at any time except at a place recognized station for the purpose which, for the purpose of this section, shall be called a requirements "charging station" Provided that this sub-regulation 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 provided with suitable and sufficient apparatus for fighting outbreaks of fire;

(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 charges 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 meters 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

177.-(1) The Manager shall make an application for approval to construct 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.

A major impoundment dam and waste dump

(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 licenses

(3) The Manager shall implement and maintain a monitoring program in the design accepted by the Chief Inspector.

(4) Major waste emplacements and major impoundment or dams shall-

Cap. 65

(a) be designed by a qualified professional engineer registered according to the Engineers Registration Act; and

(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 on the Chief Inspector.

178.-(1) No tailings impoundment shall be until-

Tailings impoundments

(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 licenses.

(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 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 impoundment shall only be reactivated on receiving written authorization from the Chief Inspector.

Water
controlling
dams

179.-(1) Major water controlling dams shall be subject to the same requirement as described for tailings dams and their appurtenances in regulation.

(2) A reservoir or pond declared inoperative by an Inspector shall be breached or otherwise disposed of in accordance with its license.

(3) Material which has a high probability of spontaneous combustion shall be placed in a separate dump.

Pipelines
design,
manufacture
and installation

180.-(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 pipeline exceeds 10 kilometres in length.

(2) A pipeline shall not be-

- (a) installed in, on or about a mine; or
- (b) materially altered whether by way of addition or modification unless the Chief Inspector has given his final approval under regulation 181(3).

Notice for
installation

181.-(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

- (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 sub-regulation shall not apply to any electrical apparatus; provided that this sub-regulation shall not apply to any electrical apparatus having approved double insulations.

(2) Any earthing conductor installed for the purpose of sub-regulation (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 millimeters (2.5) and need not exceed seventy square millimeters.

(3) Subject to compliance with the provisions of sub-regulation (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 sub-regulation shall not preclude the use of an isolator in the neutral earthing connections of alternators or transformers.

163.-(2) 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 sub-regulation (3) of regulation 151 shall be covered with insulating material.

Cables

(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 covering containing all the conductors forming part of the electrical system at that place.

182. 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; and
- (c) ensure that the results of every such pressure test are recorded in the record book.

Pipeline to be tested

183. 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 sub-regulation if the Manager submits compiles of reports prepared by a person approved by the Chief Inspector.

Progress reports to be submitted

184.-(1) Competent person shall carefully examine the pipeline in accordance with the maintenance and repair procedures approved by the Chief Inspector and record the results of every such examination in the Record book.

Competent persons to examine pipelines

(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 to minimize loss of fluid and mineral from the pipeline and shall immediately 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

Emergency facilities to be available at exploration site

185.-(1) All active exploration drill sites shall be equipped with a minimum number of the first aid kit, 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 attend.

(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. Where an induced polarization geophysical system is being operated.

Electrical
surveying
system

- (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 polarization 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 polarization surveys 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; and
 - (iv) electric blasting activities are coordinated with active induced polarization and active induced polarization and active electromagnetic survey work.

187.-(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 this intention by filling on the prescribed form obtainable from the Inspector, at least thirty days before commencing exploration.

Uranium
exploration

(2) A person who notifies the Chief Inspector under sub-regulation (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 newspaper that circulates in the area close to the specified area.

(3) In addition to all the requirements of the act and these regulation, no person shall commence 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 third Schedule to these Regulations.
- (b) a copy of the results of that baseline survey has 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 sub-regulation (2).

188.-(1) Every owner, agent, or Manager at specified area shall, during exploration-

Uranium
samples to be
tested

(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 mineralization is present;

(b) where under sub-regulation (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 written record at that specified area.

(c) keep a written record at that specified area of the grade of uranium or thorium determined under sub-regulation (1) (b).

(2) Where a grade is to be determined under sub-regulation (1) (b), a sample shall consist of a continuous section 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.-(1) Where an assay regulation 188 indicates uranium in amount of 0.05 more by weight, or thorium in an amount of 0.15% or more weight, the owner, agent, or Manager at the designated site shall ensure that-

Inspector to be
notified

(a) the Chief Inspector and the Inspector are informed within seven days of their being notified of the essay result; and

(b) further exploration, termination of exploration, or other related work at the specified area is conducted only in

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

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.

(9) Tag lines shall be of a length that will not permit their being drawn up into rotors.

(10) Persons shall keep clear of airlifted loads for those persons directly involved in handling and securing the loads.

Helicopter
landing pad

193.-(1) Any structure provided for a helicopter landing pad shall-

- (a) be constructed so as to ensure stability for the helicopter and provided 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 given a written copy of the permissible loading certificate.

Acid
generating
strata

194.-(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 sub-regulation (1) show that acid generation can occur then the generating material shall be placed in a manner which minimizes the production and release of acid mine drainage to a level that complies with environmental standards as specified under the Standards Act.

Cap. 130

Removal of
excavated
material

195.-(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 excavation is in rock and less than 2m. in depth, the sides shall be scaled to prevent loose material falling onto persons working in the excavation and 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 2 m 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 and any hazard shall be made safe before persons are allowed to conduct other work in the excavation.

PART XIV

RECLAMATION REQUIREMENTS, REHABILITATION BOND
AND MINE CLOSURE

196. It is the duty of every licensee, manager or agent of the licensee to institute and during the life of the mine to carry out a program of environmental protection and reclamation, in accordance with the standards described in this part.

Reclamation
requirement
standards

197.-(1) The reclamation standards prescribed in this Part shall apply to any mine except-

Application of
the reclamation
standards

- (a) where a mine is specifically excluded from complying with a particular standard;
- (b) where any disturbance created by a mining activity has been reclaimed, inspected, and found to be satisfactory.

(2) The land surface shall be reclaimed to an acceptable use that considers previous and potential use.

198. The level of land productivity to be achieved on reclaimed areas shall not be less than existed prior to mining on an average property basis unless the owner, agent or Manager can provide evidence which demonstrates to the satisfaction of the Chief Inspector the impracticality of doing so.

Land
productivity to
be maintained

199.-(1) Land and watercourses shall be left in a stable condition, engineered structures to be left including waste dumps, major haul roads, and tailing impoundments shall be designed in accordance to safety requirements satisfactory to the Chief Inspector.

Reclaimed
land and
structures to be
stable

(2) To ensure long term stability-

- (a) land shall be re-vegetated to a self sustaining state using appropriate plant species;
- (b) all lands to be re-vegetated, the growth medium shall

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

satisfy land use, productivity, and water quality objectives; all surface soil material removed for mining purposes shall be saved for use in reclamation programs unless these objectives can be otherwise achieved;

- (c) vegetation shall be monitored for metal uptake; and
- (d) where harmful metal levels are found, reclamation procedures shall ensure that levels are safe for plan and animal life.

Consideration
for national
heritage

200. Prior to abandonment, and unless the Chief Inspector has made a ruling with respect to national heritage consideration-

- (a) all machinery, equipment and building superstructures shall be removed;
- (b) concrete foundations shall be covered and re-vegetated unless, because of demonstrated impracticality, they have been exempted by the Chief Inspector; and
- (c) all scrap material shall be disposed of in a manner acceptable to the Chief Inspector.

Reclamation of
waste dumps

201. Waste dumps shall be reclaimed to ensure-

- (a) Long-term stability;
- (b) Water quality released from waste rock dumps to the receiving environment is of a standard specified in to these Regulations; and
- (c) Land use and productivity objectives are achieved.

Reclamation of
water courses

202. Watercourses shall be reclaimed to a condition that ensures-

- (a) long-term water quality is maintained to a standard specified in the Fifth Schedule to these Regulations;
- (b) drainage is restored either to original watercourses or to new watercourses which will sustain themselves without maintenance; and
- (c) use and productivity objectives are achieved and the level of productivity shall not be less than existed prior to mining unless the licensee, Manager or agent of the licensee can provide evidence which demonstrates, to the satisfaction the Chief Inspector, the impracticality of doing so.

203. Pit walls constructed in overburden shall be reclaimed in the same manner as waste dumps unless the Chief Inspector is satisfied that to do so would be unsafe or conflict with other proposed land uses. Reclamation of
pit walls

(2) Pit walls constructed in rock, or steeply sloping footwalls, are not required to be re-vegetated. Pit wall seepage may require treatment to ensure that water is of a quality acceptable to the Chief Inspector.

(3) Where the pit is free from water, and safely accessible, vegetation shall be established.

(4) Where the pit floor will impound water, provision could be made to create a body of water where use and productivity objectives are achieved.

204.-(1) Prior to closure of the mine-

- (a) a report shall be submitted to the Commissioner and Ministry responsible for environment outlining the post-operational state of the dams, dikes, related seepage control, spillway works, mine water sumps, and post-operational monitoring;
- (b) a permanent spillway shall be designed to a standard required by the Chief Inspector, and installed prior to final abandonment of the tailings dam;
- (c) all tailings ponds and impoundments structures shall be reclaimed to the approved land uses;
- (d) all roads shall be reclaimed in accordance with land use objectives unless permanent access is required to be maintained;
- (e) chemicals or reagents which cannot be returned to the manufacturer are to be disposed of as directed by the Chief Inspector; and
- (f) all potential acid generating material shall be placed in a manner which minimizes the production and release of acids to a level that assures protection of environmental quality.

Considerations
for
reclamations
before mine
closure

(2) 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

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

their depth or otherwise, to be protected against inadvertent access, to the satisfaction of the Inspector:

- (a) prior to mine abandonment all shafts, raises, stop 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 case 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 12 Kpa or a concentrated load of 24 kN, whichever is greater.
- (3) 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.

Manager to
conduct
monitoring

205. The licensee, Manager or agent of the licensee shall undertake monitoring programs, as required by the Chief Inspector, to demonstrate that reclamation objectives including land use, productivity, water quality and stability of structures are being achieved.

Mine closure
plan

206.-(1) Every holder of a special mining licence or mining licence shall be required to prepare and submit to the Chief Inspector a mine closure plan which shall comprise of the following-

- (a) program to reclaim and rehabilitate land and water courses to an acceptable use that considers previous and potential use;
 - (b) program to support social economic activities to provide alternative livelihood to local communities beyond the mine life;
 - (c) the comments of the district authorities and surrounding local communities or district mine closure committee;
 - (d) the cost of providing statutory and any other benefits to employees beyond the mine life; and
 - (e) the cost of reclaiming and rehabilitating the mining area in the event that the mine is closed.
- (2) The Chief Inspector shall convene a national mine closure

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

committee meeting to deliberate and approve the mine closure plan submitted under sub-regulation (1).

(3) The National Mine Closure Committee shall of comprise of representatives from-

- (a) Ministry responsible for minerals;
- (b) Ministry responsible for environment;
- (c) Ministry responsible for water;
- (d) Ministry responsible for natural resources (wildlife or forestry);
- (e) Regional and District authorities;
- (f) National Environment Management Council;
- (g) National Land Use Planning Commission; and
- (h) any other Ministry or Institution which may be co-opted as ex-official member.

(4) The mine closure plan shall be reviewed and updated from time to time by the licensee as reasonably required by the Chief Inspector.

207.-(1) The Minister shall require a holder of a special mining licence and mining licence to provide for posting of rehabilitation bond which shall be in any of the following form-

Rehabilitation
bond to be
posted

- (a) Escrow Account;
- (b) Capital Bond;
- (c) Insurance Guarantee Bond; or
- (d) Bank Guarantee Bond.

(2) The bond will take into account the mine closure costs as determined under Regulation 205 above and any other costs related to mine closure.

(3) The bond and financial guarantee will form a separate agreement between the Government and the licensee.

PART XV
MISCELLANEOUS PROVISIONS

208. The following plans shall be kept and must be brought up to date at lease every six months

Mine plans to
be kept up to
date

- (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

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

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.

Notification
and preparation
of noise report

214.-(1) The shall cause 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 of 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 required to do so by the Inspector.

(3) The Manager shall ensure that a noise report is prepared in the manner and form approved in relation to the workplace or type of workplace.

(4) 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.

(6) As soon as is practicable after a noise report relating to a

Mining (Safety, Occupational Health and Environment Protection)

G.N. No. 408 (contd.)

workplace at a mine has been prepared, the Manager of, and each employer at, the mine ensure 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; and
- (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-

(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.

215. The Mining (Safe working and occupational Health) Regulations of 1999 are hereby revoked.

Revocation of
GN. 219
Of 1999

SCHEDULES

FIRST SCHEDULE

(Made under Regulation 145(2))

ACCIDENT REPORT

_____ Mine (*fatal/Non-fatal)

Name of (*injured-deceased person) _____

Mine No. _____

Nature of Employment _____

Place of accident _____

Date of accident _____

If not employed by min. 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 dispatched _____

SECOND SCHEDULE

(Made under Regulation 146)

NON-CASUALTY ACCIDENTS OCCURRENCE OF
WHICH MUST BE NOTIFIED

1. Winding plants:
 - (a) running out of winding engine, winding drum or conveyance;
 - (b) fracture, or serious distortion of winding rope, fracture, failure or serious distortion of any connection between the winding rope and any other load suspended from or attached to such rope; fracture, 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 fracture or failure of the brakes or its operating mechanism;
 - (f) any over wind or overrun of the conveyance to an extent which may have endangered persons or have caused damage to the winding equipment;
 - (g) failure of depth indicator.

Dar es Salaam,
13th October, 2010

WILLIAM M. NGELEJA,
Minister for Energy and Mineral's

Diplomatic and Consular Immunities and Privileges (Investment Climate Facility for Africa-ICF) (Officers Conferred with Immunities and Privileges)

GOVERNMENT NOTICE No. 409 published on 5/11/2010

THE DIPLOMATIC AND CONSULAR IMMUNITIES AND
PRIVILEGE ACT

(CAP. 356)

ORDER

(Made under section 13(2))

THE DIPLOMATIC AND CONSULAR IMMUNITIES AND PRIVILEGES
(INVESTMENT CLIMATE FACILITY FOR AFRICA - ICF) (OFFICERS CONFERRED
WITH IMMUNITIES AND PRIVILEGES) ORDER, 2010

1. These Order may be cited as the Diplomatic and Consular Immunities and Privileges (Investment Climate Facility for Africa-ICF) (Officers Conferred with Immunities and Privileges) Order, 2010.

2. The categories of persons working with the Investment Climate Facility for Africa - ICF specified in the Schedule herein are hereby conferred with immunities and privileges set out in Part II of the Fourth Schedule to the Diplomatic and Consular Immunities and Privileges Act.

SCHEDULE

1. The Chief Executive Officer.
2. Chief Operating Officer.
3. Internationally Recruited Directors.
4. Internationally Recruited Managers.

Dar es Salaam,
7th October, 2010

HON. BERNARD KAMILLIUS MEMBE (MP),
*Minister for Foreign Affairs and
International Cooperation*

Diplomatic and Consular Immunities and Privileges (Amendment of the Third Schedule)

GOVERNMENT NOTICE No. 410 published on 5/11/2010

THE DIPLOMATIC AND CONSULAR IMMUNITIES AND
PRIVILEGE ACT

(CAP. 356)

ORDER

(Made under section 13(2))

THE DIPLOMATIC AND CONSULAR IMMUNITIES AND PRIVILEGES
(AMENDMENT OF THE THIRD SCHEDULE) ORDER, 2010

1. This Order may be cited as the Diplomatic and Consular Immunities and Privileges (Amendment of the Third Schedule) Order, 2010.
2. The Third Schedule to the Diplomatic and Consular Immunities and Privileges Act is hereby amended by inserting in the respective appropriate alphabetical order the following--

“The Investment Climate Facility for Africa (ICF);
The African Trade Insurance Agency (ATI);
The International Fund for Agricultural Development (IFAD);
The African Desert Locust Control Organisation for Eastern
Africa (DI.CO-EA).

Dar es Salaam,
7th October, 2010

HON. BERNARD KAMILIUS MEMBE (MP),
*Minister for Foreign Affairs and
International Cooperation*

Excise (Management and Tariff) (Remission) (Chalinze-Segera-Tanga Road Upgrading Project)(M/S China Geo-Engineering Corporation)

GOVERNMENT NOTICE No.413 published on 5/11/2010

THE EXCISE (MANAGEMENT AND TARIFF) ACT,

(CAP. 147)

ORDER

(Made under section 122)

THE EXCISE (MANAGEMENT AND TARIFF) (REMISSION)
(CHALINZE-SEGERA-TANGA ROAD UPGRADING PROJECT) (M/S
CHINA GEO-ENGINEERING CORPORATION) ORDER, 2010

Citation 1. This Order may be cited as the Excise (Management and Tariff) (Remission) (Chalinze-Segera-Tanga Road Upgrading Project) (M/S China Geo-Engineering Corporation) Order, 2010 and shall be deemed to have come into operation on the 20th day of March, 2010.

Remis- 2. Subject to the conditions specified in paragraph 3 of this Order, sions the whole of the excise duty payable on the fuel specified in the Schedule to this Order imported or purchased prior to clearance through customs by or on behalf of M/S China Geo-Engineering Corporation to be used solely in pavement strengthening and traffic safety improvement for Chalinze-Segera-Tanga Road Package I: Chalinze - Kitumbi Section is hereby remitted.

Conditions 3. The remission granted under this Order shall cease to have effect and the excise duty shall become due and be payable as if this Order had not been made if the said fuel is used for other purposes or sold or disposed of in any way to another person not entitled to enjoy similar privileges as are conferred under this Order.

Expiry 4. This Order shall expire on 30th of December, 2010

SCHEDULE

<i>S/N Description</i>	<i>Unit quantity</i>
1. diesel	Litre 5,700, 000

Dar es Salaam,

HON. MUSTAFA H. MKULO (MP.),

2nd November, 2010.

Minister for Finance and Economic Affairs

Excise (Management and Tariff) (Exemption) (Messrs China Henan International Cooperation Group Company Limited) (Kigoma-Kidahwe-Uvinza Upgrading Road Project)

GOVERNMENT NOTICE. No.414 published on 5/11/2010

THE EXCISE (MANAGEMENT AND TARIFF) ACT,

(CAP. 147)

ORDER

(Made under section 122)

THE EXCISE (MANAGEMENT AND TARIFF) (EXEMPTION) (MESSRS CHINA HENAN INTERNATIONAL COOPERATION GROUP COMPANY LIMITED) (KIGOMA-KIDAHWE-UVINZA UPGRADING ROAD PROJECT) ORDER, 2010.

1. This Order may be cited as the Excise (Management and Tariff) (Remission) (Messrs China Henan International Cooperation Group Company Limited) (Kigoma-Kidahwe-Uvinza Road Upgrading Project) Order, 2010 and shall be deemed to have come into operation on the 1st day of November, 2010. Citation

2. Subject to the conditions specified in paragraph 3 of this Order, the whole of the excise duty payable on the fuel and lubricants specified in the Schedule to this Order imported or purchased prior to clearance through customs by or on behalf of Messrs China Henan International Cooperation Group Company Limited to be used solely in the Kigoma-Kidahwe-Uvinza Road Upgrading Project is hereby remitted. Remission

3. The remission granted under this Order shall cease to have effect and the road and fuel tolls shall become due and be payable as if this Order had not been made if the said fuel and lubricants are used for other purposes or sold or disposed of in any way to another person not entitled to enjoy similar privileges as are conferred under this Order. Conditions

4. This Order shall expire on 31st day of October, 2012. Expiry

Excise (Management and Tariff) (Exemption) (Messrs China Henan International Cooperation Group Company Limited) (Kigoma-Kidahwe-Uvinza Upgrading Road Project)

G.N.No.114 (contd)

SCHEDULE

<i>S/N</i>	<i>Description</i>	<i>Unit</i>	<i>Quantity</i>
1.	Diesel	Litre	650. 240
2.	Engine Oil	Litre	253. 900
3.	Kerosene	Litre	192. 292
4.	Hydraulic Oil	Litre	50. 912
5.	Break Fluid	Litre	43. 960
6.	Grease	Kg	577. 072
7.	Steering Oil	Litre	83. 960
8.	Gear Oil	Litre	35. 920
9.	Gasoline	Litre	57. 520

Dar es Salaam,

2nd November, 2010.

HON. MUSTAFA H. MKULO (MP.),

Minister for Finance and Economic Affairs