

METALLIFEROUS MINES REGULATIONS, 1961

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SCHEDULE FIRST :- SCHEDULE

METALLIFEROUS MINES REGULATIONS, 1961

In exercise of the powers conferred by Sec. 57 of the Mines, Act, 1952 (35 of 1952), the Central Government hereby makes the following regulations, the same having been previously published as required by sub-section (1).
Section 59 of the said Act :

CHAPTER 1

Preliminary

1. Short title, extent and application :-

- (1) These Regulations may be called the Metalliferous Mines Regulations, 1961.
- (2) They extend to the whole of India except the State of Jammu and Kashmir.
- (3) They shall apply to every mine of whatever description other than a coal

or an oil mine.

2. Definitions :-

In these regulations, unless there is anything repugnant in the subject or context,-

(1) "Act" means the Mines Act, 1952 ;

(2) "approved safety lamp" and "approved electric torch" mean, respectively, a safety lamp and electric torch manufactured by such firm and of such type as the Chief Inspector may from time to time specify by notification in the Official Gazette

;

(3) "assistant manager" means a person possessing a Manager's Certificate appointed in writing by the owner, agent or manager to assist the manager in the control, management and direction of the mine or part thereof, and who takes rank immediately below the manager ;

(4) "auxiliary fan" means a forcing fan or an exhausting fan, used below ground wholly or mainly for ventilating a face or faces or blind ends ;

(5) "banksman" means a person appointed to superintend the lowering and raising of persons, tools and materials and the transmission of signals at the top of a shaft or winze ;

(6) "blaster" means a person possessing a Manager's, Foreman's, Mate's or Blaster's Certificate and appointed by the manager in writing to perform the duties of a blaster under these regulations, and Includes a shot-firer;

(7) "bellman" means a person appointed to superintend the raising and lowering of persons, tools, materials and the transmission of signals at any landing;

(8) "committee" means a committee appointed under Section 13 of the Act:

(9) "competent person", in relation to any work or any machinery, plant or equipment, means a person who has attained the ¹ [age of 20 years] and who has been duly appointed in writing by the manager as a person competent to supervise or perform that work or to supervise the operation of that machinery, plant or equipment, and who is responsible for the duties assigned to him, and includes a blaster ;

(10) "District Magistrate", in relation to any mine, means the District Magistrate or the Deputy Commissioner, as the case may be, who is vested with the executive powers of maintaining law and order in the revenue district in which the mine is situated ; Provided that in the case of a mine which is situated partly in one district and partly in another, the District Magistrate for the purposes of these regulations shall be the District Magistrate authorized in this behalf by the Central Government;

(11) "explosive" shall have the same meaning as is assigned to that term in

the Explosives Act, 1884 ;

(12) "face" means the moving front of any working place or the inbye end of any drive, level, crosscut, raise or winze :

(13) "gas" includes fume or vapour ;

(14) "landing" means any floor or platform in a shaft or winze, which is an authorized stopping place of the cage or other means of conveyance, and includes a "plat" ;

(15) "machinery" means-

(i) any locomotive or any stationary or portable engine, aircompressor, boiler or steam apparatus, which is, or

(ii) any such apparatus, appliance or combination of appliances intended for developing, storing, transmitting, converting or utilizing energy, which is, or

(iii) any such apparatus, appliance or combination of appliances if any power developed, stored, transmitted, converted or utilized thereby is. used or intended for use in connexion with mining operations ;

(16) "manager" means a person possessing the prescribed qualifications and appointed in writing by the owner or agent to be in charge of a mine under the Act, and includes a Mine Superintendent if appointed under Section 17 of the Act ;

(17) "material" includes rock, debris, stone, mineral, ore or any other material;

(18) "metalliferous mine" includes every mine other than a coal or an oil mine:

(19) "mine foreman" means a person possessing a Manager's or Foreman's Certificate and appointed by the manager in writing, under any designation whatsoever, to perform the duties of supervision or control in a mine or part thereof and includes a Shift Boss :

(20) "Mining mate" means a person possessing a Manager's. Foreman's or Mate's Certificate and appointed by the manager in writing, under any designation whatsoever, to perform the duties of a mining mate under these regulations, and includes an Overseer or Head Mistri ;

(21) "misfire" means the failure to explode of an entire charge of explosives in a shot-hole;

(22) "month" means a calendar month ;

(23) "official" means a person appointed in writing by the owner, agent or manager to perform duties of supervision in a mine or part thereof and includes an assistant manager, an underground manager, a mine foreman, a mining mate. an engineer and a surveyor

;

(24) "permitted explosive" means an explosive manufactured by such firm and of such type as the Chief Inspector may from time to time specify by notification in the Official Gazette:

(25) "public road" means a road maintained for public use and under the jurisdiction of any Government or local authority ;

(26) "quarter" means a period of three months ending on the 31st March, 30th June, 30th September or 31st December ;

(27) "railway" means a railway as defined in the Railways Act, 1890 ;

(28) "Regional Inspector" means the Inspector of Mines in charge of the region or local area or areas in which the mine is situated or the group or class of mines to which the mine belongs, over which he exercises his powers under the Act ;

(29) "river" means any stream or current of water, whether seasonal or perennial, and includes its banks extending up to the highest known flood level;

(30) "roadway" means any part of a passage or gallery below ground which is maintained in connexion with the working of a mine ;

(31) "schedule" means a schedule appended to these regulations ;

(32) "shaft" means a vertical or inclined way or opening leading from the surface to workings below ground or from one part of the workings below ground to another, and includes an incline ;

(33) "signalman" means a person appointed to transmit signals ;

(34) "socket" means a shot-hole or part of a shot-hole remaining after being charged with explosive and blasted, and which is not known to be a misfired shot-hole ;

(35) "support" includes timber-work, masonry, packwalls, sandpacks, ironwork, or any other form of support ;

(36) "tub" includes a wagon, car, truck, hutch, bandy, bucket or any other vehicle for conveying material, but does not include a railway wagon :

(37) "underground manager" means a person possessing a Manager's Certificate appointed in writing by the owner, agent or manager to be in charge of the whole of the underground workings or a specified portion thereof, under the direction of the manger, and Is thus superior to a mine foreman and a mining mate. and includes an Underground Agent;

(38) "ventilating district" means such part of a mine below ground as has an Independent intake airway commencing from a main intake airway and an independent return airway terminating at a main return airway and. in the case of a mine or part thereof which is ventilated by natural means, the whole

mine or part ;

(39) "winze" or "raise" means a small shaft, either vertical or inclined, in the workings below ground ;

(40) "working place" means any place in a mine to which any person has lawful access.

1. G.S.R. 615 (E). dated 30th July 1985 (w.e.f. 30th July, 1985).

CHAPTER 2

Returns, Notices and Records

3. Notice of opening :-

(1) The notice required by Section 16 of the Act shall be submitted In Form 1 of First Schedule¹ [and a copy thereof shall be submitted to the regional Inspector. The form shall be accompanied by a plan showing the boundaries of the mine and the shafts or openings of the mine, trijunction or revenue pillars and other prominent and permanent surface features : Provided that, in respect of a mine which has already been opened such a plan shall be submitted within sixty day of coming into force of the Metalliferous Mines (Amendment) Regulation, 1985 : Provided further that if the boundry of a mine is changed as per sub- regulation (1) of regulation 111 a plan showing the boundary shall be submitted within seven days of the said change.]

(2) When a mine has been opened, the owner, agent or manager shall forthwith communicate the actual date of opening to the Chief Inspector and to the Regional Inspector.

1. Ins. by G.S.R. 615 (E), dated 30th July. 1985 (w.e.f. 30th July, 1985).

4. Quarterly returns :-

On or before the 20th day of January, April, July and October In every year, the owner, agent or manager shall submit to the Chief Inspector and the Regional Inspector correct returns In respect of the preceding quarter in Form II of First Schedule.

5. Annual returns :-

(1) On or before the 20th day of February in every year, the owner, agent or manager shall submit to the District Magistrate and to the Chief Inspector annual returns in respect of the preceding year in Form III of First Schedule.

(2) If a mine is abandoned or working thereof is discontinued for a period exceeding 60 days, or if a change occurs In the ownership of a mine, the returns required under sub-regulation (1) shall be submitted within 30 days of abandonment or change of ownership or within 90 days of discontinuance, as the case may be: Provided that the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, allow such returns to be submitted up to any date not later than the 20th day of February in the year following that to which they relate: Provided further that nothing in this sub-regulation shall be deemed to authorize the submission of any

return later than the 20th day of February in the year following that to which it relates.

6. Notice of abandonment or discontinuance :-

(1)

(a) When it is intended to abandon a mine or to discontinue working thereof for a period exceeding four months, the owner, agent or manager shall, not less than 30 days before such abandonment or discontinuance, give to the Chief Inspector and the Regional Inspector a notice stating the reasons for the proposed abandonment or discontinuance and the number of persons likely to be affected thereby : Provided that in the case of a mine or part thereof to which regulation 142 applies, notice as aforesaid shall also be given whenever it is intended to abandon a district or part of the mine, or to discontinue working thereof for a period exceeding four months : Provided further that when, on account of unforeseen circumstances, a mine or part as aforesaid is abandoned or discontinued before the notice has been given or when without previous intention the discontinuance extends beyond a period of four months, the notice shall be given forthwith.

(b) Notwithstanding anything contained in Cl. (a), when it is intended to

(2) When a mine or part aforesaid has been abandoned, or working thereof has been discontinued over a period exceeding four months, the owner, agent or manager shall, within seven days of the abandonment or of the expiry of the said period, give to the Chief Inspector, the Regional Inspector and the District Magistrate notice in Form 1 of First Schedule.

7. Notice of re-opening :-

(1) When it is Intended to re-open a mine after abandonment, or after discontinuance for a period exceeding four months, the owner, agent or manager shall, not less than 30 days before resumption of mining operations, give to the Chief Inspector, the Regional Inspector and the District Magistrate notice in Form I of First Schedule : Provided that in the case of a mine or part thereof to which regulation 142 applies, notice as aforesaid shall also be given whenever it Is intended to re-open a district or part of the mine after abandonment or after discontinuance for a period exceeding four months.

(2) When a mine or part as aforesaid has been re-opened, the owner, agent or manager shall forthwith communicate the actual date of re-opening to the Chief Inspector and the Regional Inspector.

8. Change of ownership and address, etc :-

(1)

(a) When a change occurs in the name or ownership of a mine or in the address of the owner, the owner, agent or manager shall, within seven days from the date of the change, give to the Chief Inspector and the Regional Inspector a notice in Form I of First Schedule : Provided that where the

owner of a mine is a firm or other association of individuals, a change-

(i) of any partner in the case of a firm,

(ii) of any member in the case of an association,

(iii) of any director in the case of a public company, or

(iv) of any shareholder in the case of a private company, shall also be intimated to the Chief Inspector and the Regional Inspector within seven days from the date of the change.

(b) When the ownership of a mine is transferred, the previous owner or his agent shall make over to the new owner or his agent, within a period of seven days of transfer of ownership, all plans, sections, reports, registers and other records maintained in pursuance of the Act and of the regulations, and orders made thereunder, and all correspondence relating to the working of the mine relevant thereto,; and when the requirements of this clause have been duly complied with, both previous and the new owners or their respective agents shall forthwith send the Chief Inspector and the Regional Inspector a detailed list of the plans, sections, reports, registers and other records that have been transferred.

(2) When any new appointment is made of an agent, manager, assistant manager, underground manager, surveyor or an engineer, if any, when the employment of any such person is terminated or any such person leaves the said employment, or when any change occurs in the address of any agent or manager, the owner, agent or manager shall, within seven days from the date of such appointment, termination, leaving or change, give to the Chief Inspector and the Regional Inspector a notice in Form I of First Schedule.

8A. Appointment of agent :-

(1) The owner of a mine shall submit in writing to the Chief Inspector and the Regional Inspector a statement showing name and

(2) The statement shall also show the responsibilities of every such person and the matters in respect of which he is authorised to act on behalf of the owner of a mine.

(3) The statement aforesaid shall be submitted within one month from the date of coming into force of the Metalliferous Mines (Amendment) Regulations, 1985, in the case of mines already opened or reopened as the case may be, and in other cases within one month from the date of opening or reopening of the mine

.

(4) Any change, addition or alteration in the names or other particulars of the aforesaid statement shall be reported in writing to the Chief Inspector and the Regional Inspector within seven days from the date of such change, addition or alteration.]

9. Notice of accident :-

(1)

(a) When there occurs in or about a mine- .

(i) an accident causing loss of life or serious bodily injury in connexion with mining operations:

(ii) an explosion or ignition:

(iii) a spontaneous heating or outbreak of fire, or appearance of smoke or other indication of heating or outbreak of fire;

(iv) an influx of noxious gases :

(v) an occurrence of inflammable gas in a mine to which regulation 142 does not apply;

(vi) an irruption of water ;

(viii) a premature collapse of any part of the workings ;

(ix) any accident due to explosives ;

(x) a breakage or fracture of a rope, chain, headgear, pulley or axle or bearing thereof, or other gear by which persons are lowered or raised ;

(xi) an overwinding of cages or other means of conveyance while men are being lowered or raised ;

(xii) a breakage or fracture of any essential part of winding engine, crankshaft coupling, bearing, gearing, clutch, drum or drum-shaft ; or failure of emergency brake ;

(xiii) a bursting of any equipment containing steam, compressed air or other substance at high pressure ; or

(xiv) a breakage, fracture or failure of any essential part of any machine or apparatus whereby the safety of persons may be endangered ; the owner, agent or manager shall forthwith inform the Regional Inspector about the occurrence by telephone or express telegram or by special messenger and shall also, within 24 hours of every such occurrence, give notice thereof in Form IV-A of First Schedule to the District Magistrate, the Chief Inspector and the Regional Inspector, and shall simultaneously exhibit a copy of the notice on a special notice board outside the office of the mine and shall ensure that the notice is kept on the board in a legible condition for not less than 14 days from the date of such exhibition.

(b) When an accident causing loss of life or serious bodily injury occurs in or about a mine in connexion with the generation, storage, transformation transmission, supply or use of electrical energy, the owner, agent or manager shall also forthwith inform the Electrical Inspector of Mines by telephone, express telegram or special messenger.

(2) If death results from any injury already reported as serious ¹ [under Sub-

(3) In respect of every person killed or injured as above, the owner, agent or manager shall send to the Chief Inspector, particulars in Form IV-B and IV-C of First Schedule, within seven days of the occurrence or 15 days of the Injured person returning to duty, as the case may be.

1. Subs. by G.S.R. 615 (E), dated 30th July. 1985 (w.e.f. 30th July, 1985).

10. Notice of disease :-

Where any person employed in a mine contracts any disease notified by the Central Government in the Official Gazette, the owner, agent or manager shall, within three days of his being informed of the disease, send notice thereof in Form V of First Schedule to the District Magistrate, the Chief Inspector, the Regional Inspector and the Inspector of Mines (Medical).

CHAPTER 3

Examinations and Certificate of Competency and of Fitness

11. Board of Mining Examinations :-

(1) For the purpose of these regulations there shall be constituted a Board of Mining Examinations, hereinafter referred to as "the Board". The Board shall consist of the Chief Inspector, who shall be the Chairman of the Board, and ¹[four members] possessing technical qualifications and practical experience in metalliferous mines ²[and one member representing institutions imparting education in mining engineering at the degree or equivalent level,] who shall be appointed by the Central Government for a term of three years: ² [Provided that (a) on the expiry of his term a member shall continue to hold office until his successor is appointed ; and that (b) on the expiry of the term for which had been appointed, a member shall be eligible for re-appointment : Provided further that in a vacancy caused on the Board due to resignation or otherwise, the Central Government may appoint a suitable person possessing technical qualifications and practical experience in metalliferous mines for the remaining period of the term.]

(2) A members of the Board (other than the Chairman) shall receive such remuneration as the Central Government may fix.

(3) An Inspector or Inspector nominated by the Chief Inspector shall act as Secretary to the Board.

(4) The Board may make bye laws for regulating the procedure of its working.

1. Subs. by G.S. R. 1581, dated 21st October. 1965.

2. Ins. by G.S. R. 1581, dated 21st October. 1965.

12. Certificates granted by the Board :-

(1) Certificates under these regulations shall be granted by the Board.

(2) Certificates granted by the Board shall be valid throughout the territories

to which these regulations extend, and shall be of the following kinds:

(a) Manager's first class certificates of competency to manage a metalliferous mine (in these regulations referred to as a First Class manager's Certificate);

(b) Manager's second class certificate of competency to manage a metalliferous mine (in these regulations referred to as a Second Class Manager's Certificate):

(c) Surveyor's certificate of competency to survey the working of a mine (in these regulations referred to as a Surveyor's Certificate):

(d) Mine Foreman's certificate of competency to carry out inspections and duties as required under these regulations (in these regulations referred to as a Foreman's Certificate):

(e) Mining Mate's certificate of competency to carry out inspections and duties as required under these regulations (in these regulations referred to as a Mate's Certificate):

¹(f) Winding Engineman's I class certificate (in these regulations referred to as a I Class engine-driver's Certificate) to drive a winding engine of any type or class or of such type or class or types or classes as may be specified in the certificate:

(g) Winding Engineman's II class certificate (in these regulations referred to as a II Class engine-driver's Certificate) to drive a winding engine of any type or class of such type or class or types or classes as may be specified in the certificate ;]

(h) Blaster's certificate of competency to fire shots in a metalliferous mine (in these regulations referred to as a Blaster's Certificate) : and

(i) certificate of competency to test for the presence of inflammable gas (in these regulations referred to as a Gas-testing Certificate) : Provided that² [any of the certificates aforesaid, other than an Engine- driver's Certificate and a Gas-testing Certificate] may be restricted to mines having open-cast workings only. and this fact shall be endorsed on the certificate.

1. Subs. by G.S.R. 1555. dated 14th August, 1968.

2. Subs. by G.S.R. 1360, dated 26th August. 1966.

13. Examinations and examiners :-

(1) Certificates of competency shall be granted to successful candidates after such examination and in such form as the Board may prescribe: ¹[Provided that the Board may, subject to the conditions to be specified in the bye-laws framed for the purpose, exempt any person² [* * *] from appearing at the examination or part thereof for the grant of a certificate referred to in regulation 12.]

(2) The examinations shall be held at such times and at such centres as may be fixed by the Board, and shall be conducted by examiners appointed by the

Board.

(3) The examiners so appointed shall be subject to the orders of the Board in respect of all matters relating to the conduct of the examinations, and shall receive such remuneration as the Board, with the sanction of the Central Government, may fix.

(4) The Board may make bye-laws as to the conduct of the examinations and as to the granting of certificates of competency and of fitness as required under these regulations, and shall, so far as may be practicable, provide that the standard of knowledge required for the grant of certificates of any particular class and the standard of medical fitness shall be uniform throughout the territories to which these regulations extend. Every bye-law made by the Board under this regulation shall be published in the Official Gazette ; and no such bye- law shall have effect until three months after the date on which it was so published.

1. Added by G.S.R. 527, dated 4th April, 1970

2. Certain words omitted by G.S.R. 615 (E).dated 30th July. 1985 (w.e.f. 30th July. 1985).

14. Submission of applications :-

(1) Applications for an examination conducted by the Board shall be made on a form supplied for the purpose.

(2) Notice regarding the date and place of the examinations for the Manager's and Surveyor's certificates shall be published under the order of the Board, in such periodicals as the Board may direct, not less than 60 days prior to the date fixed by the Board for receiving applications. The closing date for receipt of applications shall not be less than 60 days prior to the date fixed for the examination.

15. Age and general qualifications, etc. of candidates :-

(1) (a) No person shall ¹[20 years of age].

(b) No person shall be admitted as a candidate at any examination for a Manager's, Surveyor's, Foreman's, Mate's or Blaster's Certificate unless he holds a valid first-aid certificate of the standard of the St. John Ambulance Association (India): Provided that if any candidate satisfies the Board that he has not had sufficient opportunity to obtain such first-aid certificate the Board may admit him to the examination on such conditions. If any, as it thinks fit to impose

(c) Every application for any examination as aforesaid shall be accompanied by-

(i) a certificate of age granted by a gazetted officer or by the headmaster of a school of a Higher Secondary or equivalent standard : Provided that in the case of a person holding a matriculation or equivalent certificate, such certificate shall be submitted as evidence of age ;

(ii) a medical certificate obtained not more than two years prior to the date of his application, from a qualified medical practitioner not below the rank of a Civil Assistant Surgeon, or from a Certifying Surgeon certifying the candidate to be free from deafness, defective vision or any other infirmity, mental or physical, likely to interfere with the efficiency of his work ; and

(iii) a certificate from some person of good repute as to the general good conduct and sobriety of the candidate.

²[(2) No person shall be admitted as a candidate to any examination for a Manager's. Surveyor's or Foreman's Certificate unless he had passed Secondary School examination of a recognised Board or its equivalent and for a Mate's Engine Driver's or Blaster's certificate unless he satisfies the Board that he is literate; Provided that nothing in sub-regulation (2) shall be deemed to debar a person not satisfying the provision thereof from being admitted at an examination for a Foreman's Certificate on or before the 1st day of January, 1992, if he had been admitted at an examination for the said certificate earlier.]

³ [(3)

(a) No person shall be admitted as a candidate at an examination for a Manager's or Foreman's Certificate, which is not restricted to mines having open- cast workings only, unless he has obtained a Mate's Certificate not so restricted and a Gas-testing Certificate, and no person shall be admitted as a candidate at an examination for Manager's or Foreman's Certificate restricted to mines having open-cast workings only unless he has obtained a Mate's Certificate: Provided that this this clause shall not apply-

(i) to a candidate for a Manager's Certificate, if he already holds a Foreman's Certificate granted under regulation 22 or regulation 23, and

(ii) to a candidate for a Manager's First Class Certificate, if he already holds a Manager's Second Class Certificate granted under regulation 22 or regulation 23.

(b) Notwithstanding anything contained in Cl. (a), if a candidate satisfies the Board that he did not have sufficient opportunity to obtain a Mate's or Gas-testing Certificate, the Board may admit him to the examination for a Manager's or Foreman's Certificate on such conditions, if any, as it may think fit to Impose.]

1. Subs. by G.S.R. 615 (E). dated 30th July. 1985 (w.e.f. 30th July. 1985)

2. Subs. by G.S.R. 818 (E), dated 6th September, 1989.

3. Subs. by G.S.R. 1360. dated 26th August, 1966.

16. Practical experience of candidates for Managers examinations :-

(1) No person shall be admitted as a candidate at any examination for a First or Second Class Manager's Certificate (other than an Exchange or Service Certificate to which the provisions of regulations 22 and Section 23 respectively apply), unless he has satisfied the Board that he has had

practical experience in a metalliferous mine

(a) in the case of a candidate who has received ¹[a diploma or degree In mining or mining engineering or other equivalent qualification] approved in that behalf by the Central Government, such period shall be reduced to three and two years, respectively ; and

(b) in the case of a candidate who has received ¹[a certificate, diploma or degree in applied geology, civil, mechanical or electrical engineering or other equivalent qualification] approved in that behalf by the Central Government, such period shall be reduced to four and two-and-a-half years, respectively.

(2) The nature of the practical experience required of a candidate for a Manager's Certificate shall be experience approved by the Board and gained in one or other of the following capacities in a metalliferous mine having an average employment of not less than 60 in workings below ground or not less than 160 in all In the mine ³[or in such other mines] as the Board may approve in this behalf:

(a) as a workman, or a mining apprentice having direct practical experience of getting ore and of a stonework, timbering and repairing ; or

(b) as an official in respect of mining operations : ²[Provided that out of the period of experience required under sub-regulation (1) from candidates for the examination of-

(i) First Class Manager's Certificate not restricted to mines having open- cast working only, a period of not less than eighteen months should have been spent in the workings below ground of a mine ;

(ii) Second Class Manager's Certificate not restricted to mines having open- cast workings only. a period of not less than twelve months should have been spent in the working below ground of a mine :] ⁵ [Provided further that the Board may approve a part of the period of the experience gained while engaged in inspection, rescue, research, planning or any other work, connected with mining operations so however that, the aforesaid period shall not. inclusive of the period of experience in coal mines approved under regulation 19. exceed one year in case of a second class coal and one-and-half years in case of First Class Manager's Certificate.]

1. Ins by G.S.R. 946, dated 10th July, 1964.

3. Ins. by G.S.R. 1360. dated 26th August, 1966.

5. Ins. by G.S.R. 615 (E). dated 30th July, 1985 (w.e.f. 30th July. 1985).

17. [Practical experience of candidates for Surveyors examinations :-

No person shall be admitted as a candidate to any examination for a Surveyor's Certificate unless he has satisfied the Board that he has had not less than two years' practical experience of surveying of a type approved by the Board. In case of candidates for a certificate which is not restricted to mines having open-cast workings, the said experience shall include practical experience for a period of not less than six months of surveying the working

below ground of a mine having an average employment of not less than 60 in workings below ground or such other mines as the Board may approve in this behalf: Provided that the aforesaid period of two years shall be reduced to six months in case of a candidate who has received a certificate, diploma or degree in mining or mining engineering, mine surveying, surveying or civil engineering or other equivalent qualification approved in that behalf by the Central Government, subject however to the condition that in case of a candidate for a certificate which is not restricted to mines having open-cast workings, the said six months' experience should have been gained in workings below ground of a mine as aforesaid.]

18. [Practical experience of candidates for Mates and Blasters examinations] :-

No person shall be admitted as a candidate at any examination for a Mate's Certificate unless the Board is satisfied that he has held practical experience and training in a metalliferous mine for a period of not less than three years: Provided that the said period shall be reduced-

(a) to two years in the case of a candidate who has received a diploma or certificate in mining subjects, or other equivalent qualification after a course of at least two years' duration approved in that behalf by the Central Government ¹[or who has received a degree in applied geology or in civil, mechanical or electrical engineering or other equivalent qualification approved in that behalf by the Central Government;]

(b) to one year in the case of a candidate who has received diploma or degree in mining or mining engineering or other equivalent qualification approved in that behalf by the Central Government.

(2) No person shall be admitted as a candidate at any examination for a Blaster's Certificate unless the Board is satisfied that he has had practical experience and training in a metalliferous mine for a period of not less than two years, of which not less than six months shall be experience and training in connexion with shot-firing: Provided that the said period shall be reduced-

(a) to one year (including not less than four months in shot-firing) in the case of a candidate who has received a diploma or certificate in mining subjects or other equivalent qualification after a course of at least two years' duration approved in that behalf by the Central Government ² [or who has received a degree in applied geology or in civil, mechanical or electrical engineering or other equivalent qualification approved in that behalf by the Central Government ;] and

(b) to six months (including not less than two months in shot-firing) in the case of a candidate who has received a diploma or degree in mining or mining engineering or other equivalent qualification approved in that behalf by the Central Government.

(3) The nature of practical experience required of candidates for the aforesaid examinations shall be experience of such a type as may be approved by the

Board.]

1. Ins. by G.S.R. 1360, dated 26th August, 1966.
2. Ins. by G.S.R. 1360, dated 26th August, 1966

19. Approval of experience in coal mines :-

In the case of a candidate part of whose experience has been obtained in a coal mine, the period of practical experience in a metalliferous mine as prescribed in ¹ regulations 116, Regulation 17 and Regulation 18] may be reduced by the Board to such an extent and subject to such conditions as it may specify.

1. Subs. by G.S.R. 1604, dated 29th 29October, 1965.

20. Practical experience of candidates for Engine drivers Certificates

:-

No person shall be admitted as a candidate at any examination for an Engine-driver's Certificate unless he has satisfied the Board that he has had practical experience of driving a winding engine or as an assistant to a qualified winding engine driver for a period of at least one year : Provided that no person shall be permitted to appear at any examination for a I Class Engine-driver's Certificate unless he holds a II Class Engine-driver's Certificate.

21. Fees for grant of certificate :-

(1) Fees on the following scale shall be paid in respect of every application for grant of a certificate:- (a) in the case of a First Rs. 100.00 Class Manager's Certificate

(2) The Chief Inspector may permit the refund of any fee paid under sub-regulation (1) if the candidate has died before the examination for grant of a certificate or the fee has been erroneously paid.

(3) Except as specified in sub-regulation (2). fee once paid for the grant of a certificate shall not be refunded.

22. Exchange certificates :-

(1) The Board may grant to any person holding a Manager's, Surveyor's. Overman's or Foreman's, Sirdar's or Mate's or Engine- driver's or Shot-firer's or Blaster's Certificate granted under any Act for the regulation of mines for the time being in force in any other country a certificate of similar class under these regulations if he ¹[possesses such practical experience and] passes such examination as the Board may ²[prescribe: Provided that a candidate for the grant of a Manager's Exchange Certificate shall also satisfy the Board that he has undergone, for a period of not less than six months, a course of practical training in India in the manner and in the mines approved by the Chief Inspector for the purpose. Before the commencement of his practical training in India as aforesaid. every such candidate shall submit to the Chief Inspector an application in a form supplied for the purpose.

(2) The Board may grant to any person holding a certificate referred to in

sub-regulation (1) granted under the Coal Mines Regulations made under the Act a similar certificate under these regulations if he ¹[possesses such practical experience and] passes such examination as the Board may stipulate : ⁴[Provided that the Board may subject to such conditions as it may specify, exempt any person from appearing at the examination or part thereof, for the grant of an Exchange Certificate.]

⁵ [(2-A) An Exchange Certificate other than a Wilding Engine-driver's or Blaster's Certificate granted under sub-regulation (1) or (2) may be restricted to mines having open-cast workings only. and in such a case. the certificate shall contain an endorsement to that effect.]

(3) Every application for the grant of an Exchange Certificate under this regulation shall be accompanied by- (i) a medical certificate obtained not more than two years prior to the date

(ii) a certificate from some person of good repute as to the general good conduct and sobriety of the candidate.

(4) Fees on the scale laid down in regulation 21 shall be paid in respect of every examination under this regulation.

1. Ins. by G.S.R. 946. dated 23rd June, 1964.

2. Subs. by G.S.R. 818 (E), dated 6th September, 1989.

4. Subs. by G.S.R. 615(E). dated 30th July, 1985 (w.e.f. 30th July, 1985)

5. Ins. by G.S.R. 1016, dated 16th April, 1969.

23. Service Certificate :-

(1) The Board may grant, until such date as may be notified by the Central Government for the purpose in the Official Gazette. without written examination,-

(a) a Manager's Certificate to any person-

(i)¹[who has attained the age of 35 years and who satisfies the Board that he has worked, for a period of not less than eight years in the case of an applicant for First Class Manager's Certificate and six years in the case of an applicant for the Second Class Manager's Certificate as an assistant manager, or underground manager, or manager, or in any capacity accepted by the Board as equivalent or superior thereto in the planning, control and direction of mining operations of metalliferous mines of a type approved by the Board. If he passes a viva voce examination in such subject as the Board may specify ; or

²[(i-a) who has attained the age of thirty years and has received a diploma or certificate in mining or mining engineering or an Honour's or a Master's degree in geology or other equivalent qualification, approved in this behalf by the Central Government, if he satisfies the Board that he has had such practical experience as complies with the provisions of sub-regulation (2) of regulation 16 for a period' of not less than eight years, in the case of a First Class Manager's Certificate, and six years in the case of a Second Class

Manager's Certificate and if he passes a viva voce examination in such subjects as the Board may stipulate : Provided that practical experience for a period of not less than three of the eight years in the case of a First Class Manager's Certificate and for a period of not less than two of the six years in the case of a Second Class Manager's Certificate shall be In the capacity of an assistant manager or underground manager or manager or in a capacity accepted by the Board as equivalent or superior thereto in the control and direction of mining operations in mines of a size approved by the Board];

(ii) who has attained the age of 25 years and has received ³[a diploma, certificate or degree in mining engineering, applied geology, civil, mechanical or electrical engineering or other equivalent qualification] approved in this behalf by the Central Government, if he satisfies the Board that he has had practical experience of the regulation 16(2) or is experienced in the capacity of a manager or in a superior capacity in the control and direction of mining operations :

⁴ [(b) a Foreman's, Mate's or Blaster's Certificate to any person-

(i) who has attained the age of 25 years and who satisfies the Board that he has worked in the capacity of mine foreman, a mining mate or a blaster, as the case may be, in a metalliferous mine in India for a period of not less than three years in the case of a certificate restricted to mines having open-cast workings only and not less than four years in the case of a certificate not so restricted and has passed such viva voce examination as the Board may stipulate

(ii) who has attained the age of 23 years and has received a diploma or certificate in mining or mining engineering or other equivalent qualification approved under sub-clause (i-a) of Cl. (a) or a degree in geology from any recognized university, if he satisfies the Board that he has had such practical experience for a period of not less than two years in the case of a certificate restricted to mines having open- cast workings only and not less than three years in the case of a certificate not so restricted as has been specified in sub-regulation (2) of regulation 16 or in the capacity of a manager or in a capacity accepted by the Board as equivalent or superior thereto in the planning, control and direction of mining operations in metalliferous mines of a type approved by the Board and if he passes such viva voce examination as the Board may stipulate ; or

(iii) who has attained the age of 21 years and has received a diploma certificate or degree in mining engineering, applied geology, civil, mechanical or electrical engineering or other equivalent qualification approved under sub-clause(ii) of Cl. (a) if he satisfies the Board that he has had such practical experience for a period of not less than one year in the case of a certificate restricted to mines having open-cast workings only and not less than two years in the case of a certificate not so restricted as has been specified In sub- regulation (2) of regulation 16 or in the capacity of a manager or in a capacity accepted by the Board as equivalent or superior thereto In the planning, control and direction of mining operations in

metalliferous mines of a type approved by the Board and if he passes such viva voce examination as the Board may stipulate.]

(2) Any service certificate granted under sub-regulation (1) may be restricted to mines having open cast workings only, and this fact shall be endorsed on the certificate.

(3) Every application for the grant of a service certificate under this sub-regulation shall be accompanied by-

(i) certificate of age granted by a Gazetted Officer of the Government or by the headmaster of a school of a Higher Secondary or equivalent standard or by a qualified medical practitioner not below the rank of a Civil Assistant Surgeon: Provided that in case of a person holding a matriculation or

(ii) a medical certificate obtained not more than two years prior to the date of his application, from a qualified medical practitioner not below the rank of a Civil Assistant Surgeon or from a Certifying Surgeon, certifying the candidate to be free from deafness, defective vision or any other infirmity, mental or physical, likely to interfere with the efficient discharge of his duties ; and

(iii) a certificate from some person of good repute as to the general good conduct and sobriety of the candidate.

(4) Fees on the scale laid down in regulation 21 shall be paid in respect of every examination under this regulation.

1. Subs. by G.S.R. 946. dated 10th July, 1964.

2. Ins. by G.S.R. 1604. dated 29th October, 1965.

3. Ananta Narayan Mukhopadhyaya v. Union of India, 1982 Lab. I.C. 1852 at p. 1856(Pat.).

4. Subs. by G.S.R. 1370, dated 30th August, 1967.

24. Service Certificate for Surveyors :-

(1) The Board may grant, until such date as may be notified by the Central Government for the purpose in the Official Gazette, a Surveyor's Certificate (restricted to metalliferous mines) to any person-

(i) ¹[who has attained the age of 30 years and who satisfies the Board that he has worked as surveyor of metalliferous mines in India for a period of not less than six years and has practical experience in surveying of the nature approved by the Board, if he passes such viva voce examination as the Board may stipulate : or

(ii) who has attained the age of 25 years and has received a ¹ [certificate, diploma or degree in mining, mining engineering, mine surveying or civil engineering, or other equivalent qualification] approved in this behalf by the Central Government if he satisfies the Board that he has had practical experience in surveying of the nature approved by the Board for a period of not less than two years (including not less than six months in the workings below ground of a metalliferous mine in India) and if he passes such viva voce examination as the Board may stipulate. [NOTE.-Any service certificate

granted under this sub-regulation may be restricted to mines having open-cast workings only ; and this fact shall be endorsed on the certificate.]

(2) Every application for the grant of a service certificate under this sub-regulation shall be accompanied by-

(i) a certificate of age granted by a Gazetted Officer of the Government or by the headmaster of a school of a Higher Secondary or equivalent standard or by a qualified medical practitioner not below the rank of a Civil Assistant Surgeon: Provided that in case of a person holding a matriculation or equivalent certificate, such certificate shall be submitted as evidence of age:

(ii) a medical certificate obtained not more than two years prior to the date of his application, from a qualified medical practitioner not below the rank of a Civil Assistant Surgeon or from a Certifying Surgeon, certifying the candidate to be free from deafness, defective vision or any other infirmity, mental or physical, likely to interfere with the efficient discharge of his duties ; and

(iii) a certificate from some person of good repute as to the general good conduct and sobriety of the candidate.

(3) Fees on the scale laid down in regulation 21 shall be paid in respect of every examination under this regulation.

1. Subs. by G.S.R. 946, dated 10th July, 1964.

25. Validity of old certificates :-

Any Engine-driver's or Blaster's Certificate granted under the Mysore Gold Mines Regulations, which is valid at the commencement of these regulations shall be deemed respectively to be the equivalent of an Engine-driver's or Blaster's Certificate granted under these regulations.

26. Duplicate Certificates :-

If any person proves to the satisfaction of the Board that he has, without any fault on his part, lost or been deprived of a certificate granted to him under these regulations, the Board may, upon realization of the following fees and subject to such terms and conditions as it thinks fit, cause a copy of the certificate to be delivered to him : Rs. (a) In the case of a Manager's or Surveyor's Certificate ... 5 (b) in the case of any other certificate ... 2 The word "Duplicate" shall be stamped across every such copy.

27. Certificates to be delivered to the manager :-

When the holder of a Foreman's, Mate's. Engine-driver's, Blaster's or Gas-testing Certificate is employed in a mine in a capacity which requires the possession of the said certificate, he shall deliver such certificate to the manager of the mine in which he is for the time being employed. The manager shall deliver to him a receipt for the same ; and shall retain the certificate in the office at the mine so long as the holder thereof is so employed, and shall return it to him on his ceasing to be so employed.

28. 28 :-

* * *]

29. Suspension or cancellation of Managers, Surveyors, Foremans. Mates, Engine-drivers, Blasters or Gas-testing Certificate :-

(1) If the Regional Inspector is of the opinion that the holder of a Manager's, Surveyor's. Foreman's. Mate's. Engine-driver's, Blaster's or Gas-testing certificate is incompetent or is guilty of negligence or misconduct in the performance of his duties under the Act or under these regulations, he shall bring the matter to the notice of the Board. The Board may authorise in writing an Inspector, not being and not below the rank of the Inspector whose report formed the basis of the said opinion, to hold an enquiry to determine whether or not such a person (hereinafter referred to as the delinquent) is fit to continue to hold such certificate. The Board shall, before the beginning of the enquiry, furnish to the delinquent a statement of the case on which the enquiry is instituted.

(2) During such enquiry the Inspector authorised to conduct the enquiry shall be provided with all relevant documents and he shall record :-

(a) the evidence of any witness that formed the basis of the said opinion ;

(b) any evidence that the delinquent may like to give ;

(c) the evidence of any witness that the delinquent may like to produce:

(d) the evidence of Manager of the mine: and

(e) any other evidence that may be considered necessary or relevant by the Inspector conducting the enquiry. Unless the delinquent fails to be present in spite of sufficient notice, the evidence aforesaid shall be recorded in the presence of the delinquent and he shall be given a reasonable opportunity to cross-examine the witness (other than those produced by him). The Inspector conducting the enquiry also may cross examine the delinquent and the witnesses.

(3) The Inspector who conducted the enquiry shall, within fifteen days from the date of the conclusion of his enquiry, send a report to the Board 'together with his findings, the notes of evidence recorded during the enquiry and other relevant records.

(4) Copies of the notes of evidence and the findings of the Inspector who conducted the enquiry shall also be sent to the delinquent who may submit his

(5) The Board may, after considering the evidence and other records and the written representation, if any. submitted by the delinquent, either cause further enquiry to be made in case and thereupon, or otherwise, either exonerate the delinquent of the charges against him or suspend or cancel the certificate, as it deems fit.

(6) Against any order of the Board under this regulation, an appeal shall lie before Central Government, within 30 days of the order.

(7) Where a certificate is suspended or cancelled under this regulation. suitable endorsement may be made on such certificate or a duplicate thereof issued under regulation 26.]

30. Validity of Foremans, Mates, Engine-drivers, Blasters, and Gas-testing certificates :-

(1)

(a) No Foreman's, Mate's. Engine-driver's or Blaster's Certificate shall remain valid for a period of more than five years unless the certificate bears an endorsement by the Regional Inspector to the effect that the holder thereof has, within the preceding five years, been examined and certified by a qualified medical practitioner appointed by the Chief Inspector to be free from deafness, defective vision or any other infirmity, mental or physical, likely to interfere with the efficient discharge of his duties.

(b) An application in respect of an examination of fitness in pursuance of Cl. (a) shall be made to the Chief Inspector, accompanied by a fee of five rupees.

¹ [(2)

(a) A medical examination undergone in accordance with rule 29-B of the Mines Rules, 1955, shall also be deemed to be an examination for the purpose of sub-regulation (1).

(b) The application for endorsement on a certificate by the Regional Inspector shall be accompanied by the certificate of fitness granted in terms of rule 29-B of the Mines Rules, 1955 and a fee of five rupees.]

1. Subs. by G.S.R. 615 (E). dated 30th July, 1985 (w.e.f. 30th July, 1985).

31. [Retirement age for managers and officials etc :-

(1) No person shall act as a manager or an official or a blaster or a winding engineman in a mine after attaining the age of 60 years unless he has obtained, within the preceding one year, a medical certificate of fitness certifying him fit to carry out the duties prescribed for him in the Act and in the regulations and orders made thereunder : Provided that if the Chief Inspector or the Regional Inspector is of the opinion that a person as aforesaid, though less than 60 years of age, is medically unfit to carry on the duties prescribed for him in the Act and in the regulations and orders made thereunder, the Chief Inspector or the Regional Inspector may, by an order in writing, require such person to obtain a medical certificate of fitness within such period, not exceeding three months, as he may specify therein: and no such person shall continue to act in any capacity as aforesaid after the period so specified unless he has obtained a medical certificate of fitness.

(2) The medical certificate of fitness as aforesaid shall be obtained from such authority and in such manner and after the payment of such fees as the Board may prescribe,

31A. Right of the workers representative to inspect the register

maintained under the Mines Rules, 1955 :-

The Register maintained in Form 'B' under the Mines Rules, 1955, shall be made available for inspection to a workers' representative duly authorised by the persons employed in the mine on an application made by him in this behalf.]

CHAPTER 4

Inspectors and Mine Officials

32. Qualifications of Inspectors :-

(1) After the coming into force of these

(2) After the coming into force of these regulations, no person shall be appointed as an inspector unless he holds a degree or diploma in mining engineering of an educational institution approved by the Central Government and also a First Class Manager's Certificate granted under these regulations :
Provided that-

(i) in relation to electrical machinery installed in mines, a person holding a degree or diploma in electrical engineering of an educational institution approved by the Central Government may be so appointed ;

(ii) in relation to other machinery or mechanical appliances installed in mines, a person holding a degree or diploma in mechanical engineering of an educational institution approved by the Central Government may be so appointed ; and

(iii) in relation to the provisions of the Act and of the regulations, and of orders made thereunder, which relate to matters concerning the health and welfare of persons, a person holding a degree or diploma in medicine, surgery and/or in social science as labour welfare, as the case may be, of an educational institution approved by the Central Government¹[or a person holding such other qualifications as the Central Government may approve in this behalf] may be so appointed. .

² [(3)* * *]

1. Added by G.S.R. 441.dated 14th March, 1964.

2. Omitted by G.S.R. 441.dated 14th March, 1964.

33. Definition :-

For the purpose of these regulations,-

(a) all excavations within the mine boundary and all premises, plants machinery and works as specified in Cl. (j) of sub-section (1) of Section 2 of the Act shall collectively constitute the mine ;

(b) the expression, "average employment" of any mine, means the average per day during the preceding quarter of the total employment in all excavations and specified ancillary facilities within the specified mine boundaries (obtained by dividing the number of man-days worked by the number of working days excluding the rest days and other non- working

days).]

34. Qualifications and appointment of managers :-

(1)

(a) No mine shall be opened, worked or re-opened unless there is a manager of the mine, being a person duly appointed and having such qualifications as are required by these regulations.

(b) No person shall act or be employed as a manager unless he is 23 years of age and is paid by, and is directly answerable to, the owner or agent of the mine.

(2) Except as hereinafter provided in sub-regulation (6) and subject to the provisions of sub-regulation (3), no person shall act or continue to act or be appointed, as manager of a mine or mines the average -employment of which corresponds to the figures given in column (i) of the table below unless he holds the corresponding qualifications given in column (ii) thereof: ¹ [* * *]

(3) Where under the provisions of sub-regulation (2), a person holding a First or Second Class Manager's Certificate has been appointed as manager, a person holding lower qualifications shall not, except with the previous permission in writing of the Chief Inspector and subject to such conditions as he may specify therein, be so appointed during the succeeding twelve months, notwithstanding any reduction in the average employment of the mine.

(4) No person shall act, or be appointed, as a manager of more than one mine except with the previous permission in writing of the Chief Inspector and subject to such conditions as he may specify therein. No such permission shall have effect for a period exceeding 12 months, unless renewed. The Chief Inspector may at any time, by an order in writing, vary or revoke any such permission if the circumstances under which the permission was granted have altered or the Chief Inspector finds that the manager has not been able to exercise effective supervision In the mine under his charge.

(5)

(a) The Chief Inspector may, after holding such examination as he may deem necessary and subject to such conditions as he may specify, grant to any person holding a Foreman's Certificate, a permit (in these regulations referred to as a Manager's Permit) authorizing such person to act as the manager of any specified mine, the average employment of which does not exceed 75 in workings below ground or 150 in all in the mine.

(b) A Manager's Permit shall be valid only for such period, not exceeding 12-months, as may be specified therein. The Chief Inspector may renew any Manager's Permit for further periods not exceeding 12 months at a time.

(c) A fee of Rs. 10 shall be payable in respect of every application for the grant of a Manager's Permit. No fee shall be charged for renewal thereof.

(d) The Chief Inspector may, after giving the holder of a Manager's Permit an

(6) The Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, authorize any person whom he may consider competent, to act as manager of any mine or mines for a specified period, notwithstanding that such person does not possess the qualifications prescribed in that behalf by sub-regulation (2). and may by a like order revoke any such authority at any time.

(7)

(a) Where by reason of absence or for any other reason, the manager is unable to exercise daily personal supervision or is unable to perform his duties under the Act and under these regulations and orders made thereunder the owner, agent or manager shall authorize in writing a person whom he considers competent to act as manager of the mine : Provided that-

(i) such person holds a Manager's or Foreman's Certificate :

(ii) no such authorization shall have effect for a period in excess of 30 days. except with the previous consent in writing of the Chief Inspector and subject to such conditions as he may specify therein ; nor without a like consent shall a second authorization be made to take effect upon the expiry of the first. The Chief Inspector shall not permit any such authorization to extend over a period exceeding 60 days unless the person holds qualification specified in sub-regulation (2) ;

(iii) the owner, agent or manager, as the case may be, shall forthwith send by registered post to the Chief Inspector and the Regional Inspector a written notice intimating that such an authorization has been made, and stating the reason for the authorization, the qualifications and experience of the person authorized, and the date of the commencement and ending of the authorization ; and

(iv) the Chief Inspector or the Regional Inspector may, except in the case of a person possessing qualifications specified in sub-regulation (2) by an order in writing, revoke any authority so granted.

(b) The person so authorized shall during the period of such authorization have the same responsibility, discharge the same duties, and be subject to the same liabilities as the manager.

(8)

(a) No manager shall vacate his office without giving due notice in writing to the owner or agent at least 30 days before the day on which he wishes to vacate his office: Provided that the owner or agent may permit the manager to vacate his office after giving a shorter notice.

(b) No owner or agent shall transfer, discharge or dismiss a manager unless the manager has been relieved by a duly qualified person as prescribed under sub-regulation (2).

(c) Nothing in sub-regulation (7) shall confer on the owner, agent or manager the right to authorize during any period of such notice, any person not duly qualified to manage the mine under sub-regulation (2). to act as the manager except in case of illness or other causes over which the manager has no control, or with the previous written permission of the Chief Inspector and under such conditions as he may specify therein.

(d) A copy of every such notice and authorization shall forthwith be sent to the Chief Inspector and to the Regional Inspector by registered post

(9)

(a) The owner or agent shall provide suitable residential accommodation for the manager, the assistant manager and the underground manager within a distance of three miles from all mine openings ; and every manager, assistant manager and underground manager shall reside in the accommodation so provided: Provided that where special difficulties exist which render compliance with these provisions not reasonably practicable, the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, grant exemption from the same.

(b) No manager shall be entrusted by the owner or agent with any work nor shall he himself perform any work which will necessitate his frequent or prolonged absence from the mine.

(c) If any dispute arises as to any matter referred to in the foregoing clauses of this sub-regulation, it shall be referred to the Chief Inspector for decision.

(10) No manager shall act as agent or assistant manager or underground manager or in any other supervisory capacity in another mine

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1. Omitted by G.S.R. 818 (E), dated 6th September, 1989.

35. Appointment of assistant managers or underground managers :-

In every mine the average employment of which exceeds 450 in workings below ground or 1,200 in all in the mine. the manager shall be assisted by assistant managers and/or underground managers on the following scale :

Average employment	Number of assistant manager and/or underground manager
Up to 600 in workings below ground, or 1,600 in all in the mine.	One.
In excess of 600 in workings below ground or 1,600 underground manager, for every additional 500 persons employed below ground or 800 in all in the mine, or part thereof, for a period of five years from the commencement of these regulations, and thereafter, for every 300 additional persons employed below ground or 800 in all in the mine or part thereof :	One additional assistant manager or underground manager,

Provided that in a mine where the average employment exceeds 1,200 in workings below ground or 3,200 in all in the mine, at least one of the assistant managers or underground managers as aforesaid shall hold a First Class Manager's Certificate: Provided further that the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, permit or

require the appointment of assistant managers or underground managers in variation with these provisions. NOTE.-For the purpose of this regulation, the expression "assistant manager or underground manager" shall include persons such as safety officers who hold equivalent qualifications.

36. Appointment of engineers :-

(1) At every mine where machinery is used an engineer or other competent person not less than 23 years of age shall be appointed to hold general charge of such machinery, and to be responsible for its installation, maintenance and safe working : Provided that nothing in this sub-regulation shall be deemed to prohibit the employment of two or more engineers or competent persons at one mine so long as the jurisdiction and sphere of responsibility of every such engineer or competent person is defined by the manager in his letter of appointment : Provided further that after such date as the Central Government may notify in the Official Gazette, no person (unless he holds ¹ [a degree or diploma in mechanical engineering or equivalent qualification] approved for the purpose by the Central Government) shall, except with the previous permission in writing of

(2) A notice of every such appointment, giving the name and full particulars of the qualifications and experience of the person so appointed, shall be sent to the Regional Inspector within seven days of such appointment.

(3) No person shall undertake the duties of an engineer at more than one mine without the previous permission in writing of the Regional Inspector and subject to such conditions as he may specify therein. The Regional Inspector may, at any time, by an order in writing, vary or revoke such permission.

(4) Where by reason of temporary absence or for any other reason, the engineer or competent person appointed under sub-regulation (1) is unable to perform his duties, the manager shall authorize in writing a person whom he considers competent to act in his place : Provided that -

(a) notice of every such authorization shall be sent to the Regional Inspector forthwith:

(b) no such authorization shall have effect for a period in excess of 30 days except with the previous consent in writing of the Regional Inspector and subject to such conditions as he may specify therein : and

(c) the Regional Inspector may, by an order in writing, revoke any authority so granted.

1. Subs. by G.S.R. 946, dated the 23rd June, 1966.

37. Appointment and qualifications of senior officials :-

(1)

(a) At every mine, one or more mine foremen shall be appointed to hold charge of the different districts of the mine on each working shift.

(b) The mine or district assigned to a mine foreman shall not be of such a size, nor shall any additional duties other than his duties under the regulations be such, as to be likely to prevent him from carrying out in a thorough manner the duties prescribed for him under the regulations. If any doubt arises as to the foregoing. It shall be referred to the Chief Inspector for decision.

(2) Every person employed under sub-regulation (1) (a) as an official subordinate to the manager or to an assistant manager or underground manager and superior to the mining mate, shall hold either a Manager's Certificate or a Foreman's Certificate.

38. Appointment of surveyors :-

(1) At every mine having workings below ground and at such other mines or classes of mines as may be notified from time to time by the Central Government, a person not less than 23 years of age and holding a Surveyor's Certificate shall be appointed to be the surveyor for carrying out the surveys and levelling and for preparing the plans and sections required under the Act, or the regulations, or orders made thereunder : Provided that nothing in this sub-regulation shall be deemed to prohibit the employment of two or more surveyors at one mine so long as the Jurisdiction and sphere of responsibility of each of the surveyors is defined by the manager in his letter of appointment.

(2) A notice of every such appointment, giving the name and full particulars of the qualifications of the person so appointed, shall be sent to the Regional Inspector within seven days of such appointment.

(3) No person shall be appointed as a surveyor of more than one mine or in any other supervisory capacity in the same mine, without the previous permission in writing of the Regional Inspector and subject to such condition as he may specify therein. The Regional Inspector may, by an order in writing revoke such permission if the circumstances under which it was granted have altered or the Regional Inspector finds that the surveyor has not been able to carry out satisfactorily the work allotted to him.

39. Appointment of official and competent persons :-

(1)

(a) The owner, agent or manager shall appoint such number of competent persons, including officials and technicians, as is sufficient, to secure during each of the working shifts-

(i) adequate inspection of the mine and of the equipment thereof:

(ii) a thorough supervision of all operations in the mine :

(iii) the installation, running and maintenance, in safe working order of all machinery in the mine ; and

(iv) the enforcement of the requirements of the Act and of the regulations and orders made thereunder ; Provided that if the Regional Inspector finds that those appointed are inadequate, he may require the appointment of such number of additional competent persons by the owner, agent or manager as he considers necessary.

(b) Without prejudice to the requirements of Cl. (a)., where the mine is worked on more than one shift, the owner, agent or manager shall ensure that during the afternoon shift and the night shift, the mine is under the general supervision of an assistant manager or underground manager, if any, and of an experienced mine foreman in other cases.

(2) It shall be the responsibility of the manager to see that the persons so appointed are competent to perform the duties assigned to them. No person shall be so appointed unless he is paid by the owner or agent and is answerable to the manager.

(3) Copies of all appointments made under sub-regulation (1) shall be entered in a bound-paged book kept for the purpose. A list of all such competent persons shall also be maintained.

(4) Without prejudice to the requirements of sub-regulation (2), every manager on taking over charge of a mine shall satisfy himself that all persons already appointed under sub-regulation (1) are competent to perform the duties assigned to them, and if he finds them competent, he shall either countersign their authorizations or issue fresh ones.

40. General management :-

(1) The owner, agent and manager shall provide for the safety and proper discipline of persons employed in the mine.

(2) Except in a case of emergency, no person who is not an official or a competent person shall give, otherwise than through the manager, instructions to a person employed in a mine who is responsible to the manager.

CHAPTER 5

Duties and Responsibilities of Workmen, Competent Persons and Officials, etc.

41. Duties of persons employed in mines :-

(1)

(a) Every person shall strictly adhere to the provisions of the Act and of the regulations and orders made thereunder, and to any order or direction issued by the manager or an official with a view to the safety or convenience of persons, not being inconsistent with the Act and these regulations, nor shall he neglect or refuse to obey such orders or directions.

(b) No person shall interfere with, impede or obstruct any other person in the discharge of his duties, nor shall he offer or render any service or use any threat, to any other person with a view to preventing him from complying

with the provisions of the Act and of these regulations and orders made thereunder or from performing his duties faithfully. If any person who receives any such offer or threat, fails to inform the manager forthwith, he shall also be guilty of a breach of these regulations.

(2) Every person shall, immediately before proceeding to work and immediately after terminating work at the end of his shift, have his name recorded in the register maintained under Section 48(4) of the Act. In case of workings below ground he shall get his name recorded every time he proceeds below ground or returns to the surface.

(3) No person shall go below ground unless he wears a hat of a type approved by the Chief Inspector.

(4)

(a) No person shall, except with the authority of an official, remove or pass through any fence, barrier or gate, or remove or pass any danger signal.

(b) Subject to any direction that may be given by an official, no person shall, except for some justifiable purpose, go into any part of the mine other than that part in which he works, or travel to or from his working place by any roadway other than the proper travelling roadway.

(5) No person shall, while on duty, throw any stone or other missile with intent to cause injury, or fight or behave in a violent manner.

(6) Every person receiving any injury in the course of his duty shall, as soon as possible, report the same to an official or to the competent person in-charge of a first-aid station, who shall arrange for the necessary first-aid to the injured person.

(7) No person shall sleep whilst on duty.

8.

(a) No person shall test for inflammable gas with a naked lamp, or brush or waft out inflammable gas. Should any person having a flame safety lamp find himself in the presence of inflammable gas, he shall not throw the lamp away or attempt to blow it out; but shall shelter it, hold it near the floor, avoid jerking it, and take it steadily into fresh air. Where he cannot take it into fresh air he shall smother out the light or extinguish it in water.

(b) No person shall, when trying or examining for the presence of inflammable gas with a flame safety lamp, raise the lamp higher than may be necessary to allow the presence of inflammable gas to be detected.

(c) Every person using a safety lamp shall take proper care of it and shall not place it within 0.6 metre of the swing of any tool, except in the case of a lamp which is actually worn attached to the body of such person. In the case of a flame safety lamp, he shall not place it on the floor unless it is necessary to do so for the safe performance of any particular work; and if the lamp becomes damaged, he shall at once carefully lower the flame until it is

extinguished and shall, at the first opportunity, report the damage to his superior official.

(9) Subject to the provisions of the Act and of the regulations and orders made thereunder, no person shall remain in a mine beyond the period over which his shift extends.

42. Duties of competent persons :-

Every competent person shall be responsible for the duties assigned to him. He shall be subject to orders of superior officials and shall not-

(a) depute another person to perform his work without the sanction of his superior official:

(b) absent himself without having previously obtained permission from such officials for the term of his absence or without having been relieved by a duly competent person: and

(c) without permission from such official perform, during his shift, any duties other than those for which he has been so appointed.

43. Duties of officials :-

(1) Every official shall be responsible for and shall carry out the duties assigned to him by the manager, assistant manager or underground manager in accordance with the provisions of the Act and of the regulations and orders made thereunder.

(2) Every official shall, to the best of his power, see that persons under his charge understand and carry out their respective duties properly.

44. Duties and responsibilities of managers :-

(1)

(a) In every mine daily personal supervision shall be exercised by (he manager: and in case of workings below ground, he shall visit and examine particular sections of the workings below ground on at least four days in every week to see that safety in every respect is ensured. Of these inspections, one at least in every fortnight shall be made during the night shift : Provided that in the case of mine where an assistant manager or underground manager holding a First Class Managers Certificate is employed in compliance with the proviso to regulation 35 and visits and examines the workings below ground on not less than five day's in every week. It shall suffice if the manager visits and examines the workings below ground on not less than two days in every week : Provided further that when, owing to any unavoidable cause, the manager or the assistant manager or underground manager aforesaid is unable to carry out the aforesaid duties or inspections, he shall record the reason for the same in the book kept under Cl. (b).

(b) The manager, the assistant manager and the underground manager, if any, shall each maintain, in a bound-paged book kept for the purpose, a

daily, and shall record therein the findings of each of his inspections and also the action taken by him to rectify the defects mentioned, if any.

(2) The manager shall make arrangements for all mine foremen and other officials concerned to meet him or the assistant manager or the underground manager once in every working day for the purpose of conferring on matters connected with their duties.

(3)

(a) The manager shall see that a sufficient supply of proper materials and appliances for the purpose of carrying out the provisions of the Act and of these regulations and orders made thereunder and for ensuring the safety of the mine and the persons employed therein, is always provided at the mine: and if he be not the owner or agent of the mine, he shall report in writing to the owner or agent when anything is required for the aforesaid purpose, that is not within the scope of his authority to order. A copy of every such report shall be recorded in a bound-book kept for the purpose.

(b) On receipt of requisition under Cl. (a), the owner or agent shall take suitable action immediately and also shall within three days of the receipt of the requisition inform the manager in writing of the action taken.

(4) The manager shall assign to every official and competent person his particular duties defining his sphere of responsibility, and on his appointment, make over to him a copy of the regulations, rules and bye-laws under the Act and of any order made thereunder which affect him and shall take all possible steps to ensure that every such person understands, carries out and enforces the provisions therein contained in a proper manner.

(5) The manager shall provide every mine foreman with a tracing, up to the date of last survey, showing the workings of the district below ground assigned to him. Where any work of reduction or extraction of pillars or blocks of mineral is being carried out, such tracing shall show clearly the order in which such reduction or extraction is to be carried out.

(6) The manager shall examine all reports, registers and other records required to be made or kept in pursuance of the Act and of these regulations and orders made thereunder, and shall countersign the same and date his counter-signature. He may, however, by an order in writing, delegate this duty to an assistant manager or underground manager except in case where a specific provision is made requiring the manager to countersign a report or register.

(7) The manager shall give attention to, and cause to be carefully investigated, any specific representation or complaint that may be made to him in writing by an employee of the mine as to any matter affecting the safety or health of persons in or about the mine.

(8) When any accident resulting in serious bodily injury to any person or in loss of life occurs in a mine, the manager shall inspect the site of accident as

soon as possible, and shall also, either himself or through an assistant manager or underground manager, have an inquiry made into the cause of and circumstances attending the accident. The result of every such enquiry¹ [and a plan and sections and wherever practicable, a photograph or photographs] of the site of the accident showing details, shall be recorded in a bound-paged book kept for the purpose² [and a copy thereof shall be furnished to the Regional Inspector within fifteen days of the accident.]

(9) The manager shall perform such other duties as have been prescribed in that behalf under the Act, and under these regulations and orders made thereunder.

(10) The manager may suspend, or take such disciplinary action as he thinks fit, against a work person for contravention of any provision of the Act and of the regulations and orders made thereunder.

1. Subs. by G.S.R. 818 (E). dated 6th September, 1989.

2. Ins. by G.S.R. 818 (E). dated 6th September, 1989.

45. Duties and responsibilities of assistant managers or underground managers :-

(1) Every assistant manager or underground manager shall carry out the duties assigned to him by the manager and shall see that in the part of the mine assigned to him by the manager, all work is carried out in accordance with the provisions of the Act and of these regulations and orders made thereunder.

(2) The assistant manager or underground manager shall, subject to the orders of the manager, visit and examine the workings under his charge, or part thereof, on every working day.

(3) The assistant manager or underground manager shall, from time to time, carefully examine every travelling part of the mine or part thereof placed under his charge, whether frequented by work persons or not,

(4) In the absence of the manager, the assistant manager or the underground manager shall have the same responsibility, discharge the same duties and be subject to the same liabilities as the manager, but not so as to exempt the manager therefrom.

46. Duties and responsibilities of mine foremen :-

Every mine foreman or other competent person appointed under regulation 37(1) shall strictly observe the following provisions, namely :

(1)

(a) Subject to orders of superior officials, he shall have responsible charge and control of such district of the mine and shall carry out such duties as may be assigned to him by the manager.

(b) In the case of workings below ground he shall, while on duty, carry a tracing of the workings of such district, and shall keep the tracing up-to-date.

(c) He shall, in his district, make the inspections and reports required by the regulations.

(2)

(a) He shall be responsible to see that the subordinate officials and competent persons in his district carry out their respective duties in a proper manner.

(b) He shall, to the best of his power, enforce in his district the provisions of the Act and of these regulations and orders made thereunder: and shall, subject to the control of the manager and the assistant manager or underground manager, If any, give such directions as may be necessary to ensure compliance with those provisions, and to secure the safety of the district and the safety and proper discipline of the persons employed therein.

(c) He shall have power to send out of the mine any person under his charge infringing or attempting to infringe any provisions of the Act and of these regulations and orders made thereunder, or failing to carrying out any direction given with regard to safety, and shall report in writing any such infringement or attempted infringement or failure to the manager or assistant manager or under- ground manager.

(3) He shall see that sufficient supplies of timber, brattice and other necessaries required for the safe working of his district are kept in convenient places therein.

(4)

(a) He shall see that eveiy air-crossing, stopping, door, brattice and other ventilation device is maintained in good order.

(b) He shall, in his district, see that the ventilation is effective: and when

(5)

(a) He shall see that all tracks and tramlines are properly laid, graded, ballasted or otherwise packed.

(b) He shall see that the manholes on the haulage roadways are kept safe, clear of obstruction, and properly white-washed.

(c) He shall see that stop-blocks, runway switches and other safety devices are fixed and used as required under the regulations, that drags or backstays are provided and regularly used behind tubs ascending inclines, and that a sufficient supply of suitable sprags is provided where tubs are loaded on a gradient or lowered down a gradient by hand.

(d) He shall, if he finds any of the ropes, chains, signals, brakes, jig-wheels and posts or other apparatus in use in his district to be in an unsafe condition, stop the use of the same forthwith.

(6) He shall be responsible to see that, except for the purpose of inspection,

examination and repairs, every person other than an official or a haulage attendant travels by the travelling roadway.

(7) He shall give prompt attention to the removal of any danger observed by or reported to him, and shall see that dangerous places are adequately fenced off.

(8) He shall, under the directions of the manager and other superior officials, see that approved safety lamps are used and naked lights excluded wherever and whenever danger from inflammable gas is apprehended.

(9)

(a) He shall devote the whole of his time to his duties, and shall visit each working place in his district as often as may be necessary or possible.

(b) He shall not, except for a justifiable cause, leave the district under his charge until he has furnished the inspections required under these regulations and any other duties that he is required to perform, or until relieved by a duly appointed substitute.

(c) He shall, if the mine is working in a continuous succession of shifts, confer with official succeeding him and shall give him such information as may be necessary for the safety of his district and of persons employed therein

(10) He shall, at the end of his shift, record in a bound-paged book kept for the purpose, a general report on the performance of all his duties during the shift, including anything concerning the proper working of the mine and the safety and discipline of persons employed in his district.

47. Duties and responsibilities of mining mates :-

Every mining mate or other competent person appointed under regulation 116 shall strictly observe the following provisions, namely :

(1)

(a) Subject to orders of superior officials, he shall have responsible charge and control of the district of the mine assigned to him by the manager or assistant manager or underground manager.

(b) He shall take reasonable means to ensure the proper observance of the requirements of the Act and of these regulations and orders made thereunder by persons under his charge, and shall, as soon as practicable, report any contravention thereof to his superior official.

(2)

(a) He shall make such inspections and reports as are required by the regulations: and in making such examination, he shall pay particular attention to the checking of supports.

(b) Except in the case of mine working in a continuous succession of shifts,

he shall, on completion of the first inspection of the district, proceed to the station appointed under regulation 116 and instruct all person as to their places of work and as to any special precaution necessary to be observed by them.

(c) If he finds any person in a place other than the one assigned to him, he may order such person out of the mine, and shall forthwith report the matter to his superior official.

(d) He shall ensure that no inexperienced person is employed on any work except under the supervision of an experienced person.

(3)

(a) He shall see that all travelling roadways to, and from working places in, his district are made and kept secure.

(b) He shall report to his superior official any deficiency in timber, appliances and other necessaries required for the safe working of the district.

(4) Where either of the two ways affording means of egress from the district to the surface is not ordinarily used for travelling, he shall travel, once at least in every seven days. the whole of such way in order to make himself thoroughly acquainted with the same.

(5)

(a) If he observes any dangerous place during the course of his inspections, or if any danger is reported to him at a place where work persons are employed, he shall, if the danger cannot be removed forthwith, withdraw all persons from such place and shall not leave such place until the danger has been removed in his presence or all approaches to the place have been fenced off so as to prevent persons from inadvertently entering such place.

(b) He shall take care that every dangerous operation is carried out with due precaution, and in such cases shall be present throughout whenever any work of clearing falls of ground and setting of supports therein is being carried out.

(c) He shall cause the entrance to every place which is not In actual use or in course of working or extension, to be fenced across the whole width so as to prevent persons from Inadvertently entering such place.

(d) If he finds any accumulation of inflammable or noxious gases, he shall carry out the provisions of regulation 141 and shall not remove such accumulation until he has received instructions in that behalf from his superior official.

(6) He shall, on receipt of information of an accident to any person in his district, proceed at once to the place of accident, inspect the place and, if required, supervise the rescue operations; and shall report or send notice of the accident to the manager or assistant manager or underground manager

(7)

(a) He shall devote the whole of his time to his duties, and shall not leave the district under his charge until the end of the shift or until he has been relieved by a duly appointed substitute.

(b) If the mine is working in a continuous succession of shifts, he shall, before leaving his district, confer with the mining mate or competent person succeeding him; and shall acquaint him with all matters requiring his personal attention and give him such other information as may be necessary for the safety of his district and of the persons employed therein.

48. Duties and responsibilities of blasters :-

Every blaster shall-

(a) carry out his duties in accordance with the provisions of the regulations and of any order made thereunder with respect to the transport and use of explosives:

(b) be responsible for the observance by his assistants, if any, of such provisions and of any direction with a view to safety, which may be given to them by a superior official;

(c) not hand over any explosives to any unauthorized person:

(d) see that clay, sand or other suitable stemming material is available in sufficient quantities at convenient places:

(e) be present when shots are being charged and stemmed: and shall himself fire the shots; and

(f) be responsible when a shot has misfired, for seeing that the place is adequately fenced, and that the provisions of regulation 167 are strictly observed.

49. Duties of timber-men :-

Every timber-man shall carry out the orders of the manager, assistant manager, underground manager, mine foreman, mining mate or other competent persons with respect to the securing of hangwall, footwall and back (roof). He shall at once report to the mining mate or other competent person any shortage of timber in his district. He shall also be responsible to see that wood-cuttings are not left in any working below ground.

50. Duties of attendants of main mechanical ventilators :-

Every person in charge of the main mechanical ventilator shall-

(a) keep the ventilator running at the speed fixed by the manager:

(b) examine the machinery and observe the pressure-recording or water-gauge and the speed-indicator at intervals of not more than one hour. and shall enter the readings of the gauge in a bound-paged book kept for the purpose at the fan-house:

(c) immediately report to his superior official any stoppage of, damage to, or defect or derangement in. the machinery or any unusual variation in the

water-gauge or other indicators; and shall also immediately report to him any unusual circumstances in regard to mine ventilation which may come to his notice: and

(d) where the ventilator is continuously operated, shall not leave his post until relieved by a duly appointed substitute

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51. Duties of lamp room in-charges :-

Every competent person in charge of a safety lamp room-

(a) shall be responsible for ensuring that all lamps in the safety lamp room are properly maintained in accordance with the provisions of the regulations;

(b) shall see that the safety lamp room is kept in a neat and tidy condition. and that all damaged and defective gauges, glasses and other parts of safety lamps are not kept or stored in such room:

(c) shall see that fire extinguishers or other means of dealing with fire provided in the safety lamp room are in good condition, and readily available for use:

(d) shall see that all records required by the regulations for the issue. return and maintenance of safety lamps are properly maintained: and

(e) shall carry out such other duties relating to the maintenance, issue and return of safety lamps as may be specified by the manager or assistant manager or underground manager.

52. Duties and responsibilities of surveyors :-

(1) Every surveyor shall-

(a) make such surveys and levellings, and prepare such plans and sections. and tracings thereof as the manager may direct or as may be required by the Act or by the regulations or orders made thereunder, and shall sign the plans, sections and tracings and date his signature: and

(b) be responsible for the accuracy of any plan and section, or tracings thereof, that has been prepared and/or signed by him.

(2) The surveyor shall record in a bound-paged book kept for the purpose-

(a) the full facts when the workings of the mine have approached to about 75 metres from the mine boundary or from disused or water-logged workings:

(b) any doubts which may exist concerning the accuracy of the plans and sections prepared under these regulations: and

(c) any other matter relating to the preparation of the plans, sections and tracings that he may like to bring to the notice of the manager. Every entry in the book shall be signed and dated by the surveyor, and countersigned and dated by the manager : Provided that where in any mine two or more

surveyors are employed, each of the surveyors shall make the entries aforesaid in respect of the workings in his jurisdiction or the plans and sections in his charge.

(3) Nothing in sub-regulation (2) shall absolve the owner, agent or manager of his responsibility under the Act and under these regulations and orders made thereunder.

53. Duties and responsibilities of engineers :-

The engineer or other competent person appointed for the purpose-

(a) shall, subject to the orders of the manager and other superior officials, hold general charge of all machinery at the mine: and shall be responsible for the proper installation, maintenance and safe working of such machinery:

(b) shall, when any machinery is shifted or newly installed, see that it is given a trial run before it is put into use: he shall be present during every such trial run:

(c) shall be present throughout whenever any work of installing, changing or recapping of any winding rope, or of installing, changing or annealing any suspension gear. is being carried on:

(d) shall see that the provision of the Act and of the regulations and orders made thereunder relating to the installation, maintenance, operation or examination of machinery are properly carried out by himself or by subordinate officials or by competent persons or by work persons, as the case may be. appointed for the purpose; and

(e) shall, if mechanics or other subordinate officials or competent persons are appointed for the purpose, examine all reports, registers and other records relating to the installation, maintenance, operation or examination of machinery required to be made or kept in pursuance of the Act and of the regulations and orders made thereunder, and shall countersign the same and date his signature : Provided that where in any mine two or more engineers or other competent persons are employed, every engineer or competent person shall be responsible for, and shall perform, the duties aforesaid in respect of such machinery as has been placed within his jurisdiction.

54. Duties of winding engine-men :-

(1) At the beginning of his shift, every winding engine-man shall examine the engine, brakes and all appliances in his charge, and shall satisfy- himself that they are in good working order.

(2) Every winding engine-man shall, during his shift, keep the winding engine and apparatus connected therewith properly cleaned and oiled, and shall see that the engine room is cleaned and free of inflammable material.

(3) The winding engine-man shall immediately report in writing to the engineer or other competent person appointed for the purpose any defect he has noticed in the engine, brake indicator, drum, rope or other appliances

under his charge.

(4) The winding engine-man shall not allow any unauthorized person to enter the engine room or in any way to interfere with the engine.

(5) Every winding engine-man shall thoroughly acquaint himself with, and carefully attend to, the prescribed code of signals; and shall not start the engine until he has received the proper signal to do so. If the signal is indistinct, he shall not start the engine until it has been repeated and he clearly understands it.

(6) The winding engine-man shall avoid jerk in starting, running and stopping the engine, and shall cause the cage or other means of conveyance to be brought gently to rest at any stopping place.

(7) While persons are being lowered or raised in the shaft, the winding engine-man shall not drive the engine at a speed higher than the speed that shall be fixed by the manager for man winding purposes and approved by the Regional Inspector by an order in writing.

(8) The winding engine-man shall not unclutch the drum of his engine until he has assured himself immediately beforehand by testing the brake of the drum against the full power of the engine that the brake is in proper condition to hold the load suspended from the said drum. When the drum is unclutched, he shall use the brake only for the purpose of maintaining such drum stationary and shall not wind men or material from an unclutched drum.

(9) The winding engine-man shall on no pretext leave the handle or brake whilst the engine is in motion, or while persons are riding a cage or other means of conveyance in the shaft.

(10) The winding engine-man shall not leave the engine whilst persons are at work in the shaft. Whenever he has occasion to leave the engine, he shall secure the drums with the brake and cut off the power.

(11) The winding engine man of a winding engine by which persons are lowered or raised in a shaft, shall not leave the engine at the end of his shift unless all the persons have come out of the shaft or unless he has been relieved by a duly appointed substitute.

55. Duties of banksmen, bellmen and signalmen :-

(1) Every banksmen, bellman and signalman, as the case may be, shall observe the following provisions :

(a) He shall, subject to orders of a superior official, have full control of the top of the shaft or winze or the landing, as the case may be; and shall report to such official any person who, without authority, gives a signal or disobeys instructions.

(b) He shall thoroughly acquaint himself with, and carefully attend to the prescribed code of signals, and shall properly transmit the signals by the means provided. He shall not act on any single the correctness of which he is

in doubt, except a signal which he believes to be "to stop". He shall not allow any unauthorized person to give signals.

(c) He shall immediately report to his superior any defect in the signalling installation.

(d) He shall devote the whole of his time to his duties, and shall not leave his post during the period of his duty. Where persons are raised or lowered in the shaft, he shall not leave his post at the end of his shift unless all the persons have come out of the shaft or unless he has been relieved by a duly appointed substitute.

(e) He shall not allow more than the authorized number of persons to enter the cage or other means of conveyance at any one time.

(f) He shall not, unless specially authorized in writing by the manager in that behalf, allow any person when riding in a cage or other means of conveyance, to take with him any bulky material other than tools and instruments: Provided that nothing in this clause shall be deemed to prohibit the carrying, in a cage or other means of conveyance, of explosives by a blaster or other competent person.

(g) After a stoppage of winding for repairs or for any other cause for a period exceeding two hours, he shall not allow any person to ride in a cage or other means of conveyance unless it has been run at least one complete trip up and down the working portion of the shaft.

(h) He shall not allow any person to ride on the top or edge of any cage or other means of conveyance except when engaged in examination, repair or any other work in the shaft.

(i) He shall, after persons have entered the cage, see that the cage gates on both sides are in position and closed, before signalling for the cage to be lowered or raised.

(j) He shall not allow any unauthorized person to handle tubs in or out of the cage. While tubs are being lowered or raised, he shall also see that the catches are holding the tubs properly before signalling the cage or other means of conveyance away. If he notices any defect in the tub-catches, he shall immediately inform his superior official.

(k) He shall not, at any entrance into a shaft, winze or landing which is provided with gates or fences not worked by the cage or other means of conveyance, begin to remove the gate or fence until the cage or other means of conveyance, has stopped at the entrance, and shall close the gate before he has signalled the cage or other means of conveyance away. He shall not permit any unauthorized person to open or interfere with the gate.

(l) He shall see that all fences and gates provided at the top of the shaft, winze or landing are in position.

(m) He shall not permit any unauthorized person to remove a fence or gate:

and if he notices any defect in such fence or gate, he shall immediately inform his superior official.

(n) He shall keep the top of the shaft or the inset and the floor of every cage free from loose materials.

(o) He shall, when long timber, pipes, rails or other materials projecting over the top of a cage or other means of conveyance are lowered or raised, see that the projecting ends are securely fastened to the rope, chains or bow.

(p) He shall, when he suspects that the cages are not working smoothly in the shaft or winze or when he hears anything unusual happening in the shaft or winze while the winding engine is working, immediately give signal to the winding engine-man to stop the engine.

(2)

(a) At the beginning of his shift, every banks man shall see that the keps are in proper working order.

(b) The banksman, when he is informed of any danger in the shaft or winze, shall not allow any person to descend except for the purpose of examination or repair; and during the time that such examination or repair is going on, shall be on duty and listen for signals.

(c) The banksman shall not permit any person descending the shaft to carry any intoxicating drink or drug, or allow any intoxicated person to descend.

(3) Where the manager so directs by an order in writing, the banksman or the bellman, as the case may be, shall also carry out the duties of a signalman.

56. Duties of haulage engine-men, brakesmen and signallers :-

(1) At the beginning of his shift, every haulage engine-man shall examine the engine. Its brakes and all appliances in his charge, and shall satisfy himself that they are in good working order.

(2) Every haulage engine-man shall, during his shift, keep the haulage engine and apparatus connected therewith properly cleaned and oiled, and the engine- room clean and free of inflammable material.

(3) The haulage engine-man and brakesman shall report immediately to the engineer or other competent person appointed for the purpose any defect which he has noticed in the engine, brake-drum, rope or other appliance under his charge.

(4) Whenever the haulage engine-man has occasion to leave the engine, he shall cut off the power and secure the engine with the brake.

(5) The haulage engine-man, brakesman and signaller shall not allow any unauthorized person to enter the engine room or in any way to interfere with the engine or signal, as the case may be.

(6) Every haulage engine-man, brakesman and signaller shall thoroughly

acquaint himself with and carefully attend to, the prescribed code of signals. The haulage engine-man shall not start the engine until he has received the proper signal to do so. If the signal is indistinct, he shall not start the engine until it has been repeated and he clearly understands it.

(7) The person in charge at the top of any haulage plane or incline shall see that the stop-blocks are blocking the way before allowing any tub to be brought on to the top landing; and shall cause the tubs to be securely coupled up to each other and to the rope or chain before the stop-block is opened. In case any alternative safety appliance is provided, he shall cause the same to be brought into use on every such occasion.

(8) The person who is responsible for the attachment, to the haulage rope, of any tub or set of tubs at any stopping place on any haulage plane or incline, shall see that no person remains in a position of danger at or near such stopping place while the rope is in motion.

(9) The person in charge of any tub or set of tubs, which it is intended to send up any haulage plane or incline on which drags or back-stays are required to be used shall securely fix the drag or back-stay or cause it to be so fixed before such tub or set of tubs is set in motion.

(10) The person in charge at the top or bottom of the incline shall see that no unauthorized person rides on any tub or haulage rope.

(11) Before a train of side-tipping tubs is set in motion, the person in-charge shall see that the safety catches of all such tubs are properly secured.

57. Duties of locomotive drivers and shunters :-

(1) Every locomotive driver shall, before commencing work in his shift, ensure that the whistle or warning bell and the brakes of the locomotive are in proper working order.

(2) The locomotive driver shall not work the locomotive except during hours of day light, unless the locomotive is fitted with sufficient head lights as prescribed.

(3) The locomotive driver shall immediately report to the engineer or other competent person appointed for the purpose any defect which he has noticed in the locomotive or any part or fitting thereof.

(4) The locomotive driver shall not set the locomotive in motion until a whistle or warning bell has been given by him to persons whose safety may be endangered. He shall also give the whistle or warning bell when the locomotive is approaching a level crossing or any place where any person is at work or where the driver's sight is intercepted.

(5) The locomotive driver shall not leave a locomotive unattended away from the places where it is housed, unless he has ensured that it cannot be set in motion by any unauthorized person.

(6) The locomotive driver shall ensure that no unauthorized person drives,

handles or rides on a locomotive.

(7) When tubs or wagons are being pushed in front of the locomotive, the shunter shall accompany the leading wagon.

58. Duties of magazine in-charges :-

Every magazine in-charge-

(a) shall, subject to orders of superior officials, be responsible for the proper receipt, storage and issue of explosives in and from the magazine:

(b) shall maintain such records of explosives so received, stored and issued, as are required by the rules made under Explosives Act, 1884 , and under the Act and the regulations and orders made thereunder:

(c) shall not issue explosive to any person other than a competent person: and when explosives are returned to the magazine, shall re-issue such explosives before issuing fresh stock;

(d) shall record in a bound-paged book kept for the purpose the names of various competent persons, and the quantity and nature of explosives issued to each of them; and shall similarly record the quantity and nature of explosives returned to the magazine by each person:

(e) shall securely lock each canister before issuing it to the competent person and shall also check whether the canister is returned to the magazine in locked condition: he shall not issue explosives in any canister which is not in proper repair or which cannot be securely locked:

(f) shall not allow any unauthorized person to enter the magazine; and

(g) shall, if he discovers any shortage of explosives in the magazine, forthwith inform the manager in writing.

59. Duties of register keepers and attendance clerks, etc :-

(1) Every person appointed to keep registers or other records required by or under the Act and the regulations and any orders made thereunder, or to make entries therein, shall make the necessary entries in ink and with reasonable despatch.

(2) During the whole time that persons are at work, the attendance clerk shall remain on duty at the attendance cabin which shall be provided near the work places or, in the case of workings below ground, near the outlet used by the work persons to enter and leave such workings,

(3) No person who is not an employee of the mine or is not entitled to enter the mine under the Act and under the regulations and orders made thereunder, or is not so authorized by the manager, shall enter the mine. It shall be the duty of the attendance clerk to see that no such person enters the mine; and if any such person forcibly enters the mine, the attendance clerk shall immediately report the matter in writing to the manager.

(4) If after the commencement of a shift, any official or a competent person has not got his attendance recorded in the register maintained under Section 48(4) of the Act. the attendance clerk concerned shall, within two hours after the commencement of the shift, report the fact in writing to the manager or assistant manager or underground manager or other official in charge of the shift.

CHAPTER 6

Plans and Sections

60. General requirements about mine plans and sections :-

(1) Every plan or section prepared or submitted in accordance with the provisions of these regulations shall

(a) show the name of the mine and of the owner and the purposes for which the plan or section is prepared:

(b) show the true north or the magnetic meridian and the date of the latter:

(c) show a scale of the plan, at least 25 centimetres long and suitably subdivided:

(d) unless otherwise provided, be on a scale having a representative factor of-

(i) 200: 1, in case of mica mines and other mines having small-scale workings below ground:

(ii) 2,000 : 1. in case of mines having large open-cast workings and also in case of surface plans of large leasehold areas; and

(iii) 1,000 : 1, in other cases :

(e) be properly inked in on durable paper or on tracing cloth, and be kept in good condition.

(2) The conventions shown in Second Schedule shall be used in preparing all plans and sections required by the regulations.

(3) The plans and sections shall be accurate within such limits of error as the Chief Inspector may specify by a general or special order.

(4) The plans and sections required under these regulations shall be maintained up to date within three months except in case of open-cast workings In respect of which it shall suffice if the plans are maintained up to date within 12 months: Provided that where any mines or part is proposed to be abandoned or the working thereof to be discontinued or rendered inaccessible, the plan and section shall be brought up to date before such abandonment or at the time of discontinuance, as the case may be unless such abandonment or discontinuance has been caused by circumstances beyond the control of the owner, agent or manager, in which case the fact that the plan or section is not up-to-date shall be recorded on it.

(5) Plans and sections required to be maintained under these regulations shall be kept available for Inspection in the office at the mine, and shall not be removed therefrom except by or with the approval in writing of an Inspector, unless a true copy thereof has been kept therein.

61. Types of plans and sections :-

(1) The owner, agent or manager of every mine shall keep the following plans and sections :

(a) A surface plan showing every surface feature within the boundaries. such as telephone, telegraph or power-transmission line. water-main, tramline, railway, road, river, water-course, reservoir, tank, bore- hole, shaft and incline opening, open-cast working, subsidence and building on the surface.

(b) An underground plan showing-

(i) the position of the workings of the mine below ground:

(ii) every bore-hole and shaft (with depth), drive, crosscut, winze, rise, excavation (stoped ground) and every tunnel and air passage connected therewith:

(iii) every pillar or block of mineral left for the support of any structure on the surface; and underground magazine, if any:

(iv) every important feature within the boundaries such as railway, road, river, stream, water-course, tank. reservoir, open-cast working and building which is within 200 metres of any part of the workings measured on the horizontal plane:

(v) the general strike of the veins, lodes, reefs and mineral beds or deposits:

(vi) the position of every dyke. fault and other geological disturbance with the amount and direction of throw: and

(vii) an abstract of all statutory restrictions in respect of any specified workings, with a reference to the order imposing the same. Whenever this plan is brought up to date. the then position of the workings shall be shown by a dotted line drawn through the ends of the workings, and such dotted line shall be marked with the date of the last survey: Provided (hat the Chief Inspector may by an order in writing and subject to such conditions as he may specify therein, approve any other method of showing the up-to-date position of the workings of the mine.

(c) A transverse section or sections of the workings through the shaft or shafts and main adits indicating clearly the surface and the dips of the vein, lode, reef or mineral bed or deposit at different points: and such sections of the strata sunk or driven through in the mine or proved by boring, as may be available.

(d) A vertical mine section or sections showing a vertical projection of the mine workings, where a reef, vein, lode or mineral bed or deposit has an

average dip of more than 30 degrees from the horizontal : Provided that with the permission in writing of the Chief Inspector and subject to such conditions as he may specify therein, such sections may be prepared in relation to any other suitable plane.

(e) A ventilation plan, and section where necessary, showing the system of ventilation in the mine and in particular-

(i) the general direction of air-current:

(ii) every point where the quantity of air is measured;

(iii) every device for the regulation and distribution of air:

(iv) every fire-refuge chamber, if provided;

(v) every room used for storing inflammable material;

(vi) the position of fire-fighting equipment:

(vii) every water-dam with dimensions and other particulars of construction;

(viii) every pumping, telephone and ambulance station, every underground magazine; and

(ix) every haulage and travelling roadway,

(f) A water-danger plan and section showing-

(i) the position of the workings below ground; and every bore-hole and shaft (with depth), drive crosscut. winze, rise, excavation and air- passage connected therewith:

(ii) the position of every dyke, fault and other geological disturbance, with the amount and direction of throw:

(iii) levels taken in workings below ground at easily identifiable points sufficient in number to allow of the construction of sections along all drives, main headings and haulage roadways:

(iv) every source of water such as river, stream, water-course, reservoir, water-logged open-cast workings on the surface, and also the outline of all water-logged workings below ground lying within 60 metres of any part of the workings measured in any direction:

(v) every reservoir, dam or other structure, either above or below ground, constructed to withstand a pressure of water or to control an inrush of water, along with reference to its design and other details of construction:

(vi) surface contour lines drawn at vertical intervals not exceeding five metres (or ten metres in the case of a mine where there are no workings below ground: or in case of mines situated in hilly terrain, such other larger interval as the Regional Inspector may permit by an order in writing and subject to such conditions as he may specify) over the whole area lying within 203

metres of any part of the workings: and

(vii) the highest flood level of the area. All levels taken above and below ground shall be referred to a plane in relation to a bench-mark which shall be established on the surface in the mine. Particulars of this bench-mark, together with its height above the Mean Sea Level, shall be shown on the plans and sections maintained under this clause.

(g) A geological plan of the area of leasehold, on a suitable scale specified or approved by the Chief Inspector by a general or special order in writing.

(2) Where different reefs, lodes, veins or mineral beds or deposits overlie or run parallel to one another, the workings of each reef, lode, vein or mineral bed or deposit shall be shown on a separate plan and/or longitudinal section or sections: so however that if two reefs, lodes, veins or mineral beds or deposits are so situated in relation to each other that the parting between workings made therein is less than 10 metres at any place, such workings shall also be shown on a combined plan and/or longitudinal section, as the case may be, in different colours.

(3)

(a)

(i) The plans kept under Cls. (a) and (b) of sub-regulation (1) shall also show the settled boundary of the mine, or where the boundary is in dispute, the boundaries claimed by the owner of the mine and by the owners of the mines adjacent to the disputed boundary : Provided that where it is not possible to show the complete boundary of leasehold on the same plan, an additional key plan on any other suitable scale showing such boundaries and the outline of the workings shall also be maintained.

(ii) The plans required to be kept under Cl. (b) of sub-regulation (1) shall also show the workings both above or below ground of all adjacent mines as are situated within 60 metres, measured on any plane, of the boundary claimed by the owners of the mines. The position of these workings also shall be maintained up to date within three months, or 12 months if permitted under regulation 60(4).

(iii) The plans kept under Cl. (b) of sub-regulation (1) shall also, on every occasion that the workings are brought up to date in compliance with the provisions of Cl. (ii) of this sub-regulation, be signed by the surveyor and the manager of every adjoining mine having workings within 60 metres of the common boundary (or where the boundary is in dispute, within 60 metres of the boundary claimed by the owner of the mine) signifying the correctness of the common boundary, or the disputed boundaries as the case may be, and of the position of the workings in relation to one another.

(b) The owner, agent and manager of every mine shall give all reasonable facilities to the surveyors of its adjacent mines to carry out the surveys and levellings required to be made under this sub-regulation.

(4)

(a) The Regional Inspector may, by an order in writing, require such additional details to be shown on the plans and sections required to be kept under the regulations, or the preparation and maintenance of such other plans and sections showing such details and on such scale and within such time as he may specify in the order.

(b) The Regional Inspector may, by an order in writing, require the owner, agent or manager to submit to him within such time, such plans and sections, or tracings thereof, as he may specify in the order.

(c) The owner, agent or manager shall at any time, if required by an inspector, show on any plan or section the then position of the workings of the mine.

62. Copies of plans and sections to be submitted :-

The owner, agent or manager shall, on or before the 30th April of every year, submit to the Chief Inspector, two up-to-date copies of the plans and sections maintained under Cls. (b). (c) and (d) of regulation 61(1). The provisions of the regulation shall be deemed to have been complied with if the owner, agent or manager gets the copies of the plans and sections submitted hereunder during the previous year brought up to date at his own expense.

63. Plans and sections to be submitted after abandonment or discontinuance :-

(1) Where any mine (or in case of a mine to which regulation 142 applies, any part thereof) is abandoned or the working thereof has been discontinued over a period exceeding four months, the person who was the owner of the mine at the time of the abandonment or discontinuance shall within 30 days after the abandonment or within five months after the discontinuance of the workings, as the case may be, submit to the Chief Inspector two true copies of the up-to-date plan and section of the workings of the mine or part maintained under Cls. (b), (c) and (d) of regulation 61(1). Every such copy shall show the bearing and distance of at least one of the shafts or openings of the mine from a trijunction or revenue pillar or from any other prominent and permanent surface feature, the position of all water-dams built below ground (with their dimensions and other particulars of construction) and also the spot-levels at the ends of the workings : Provided that if a change of ownership occurs after the abandonment or discontinuance and before the expiry of the 30 days or five months aforesaid, as the case may be, such plans and sections shall be submitted forthwith.

(2) The original or a certified true copy of the plans and sections submitted under sub-regulation (1) shall be kept in the office at the mine.

(3) The Chief Inspector may, on such conditions as he thinks fit to impose and on payment of the cost of preparing copies as determined by him, supply copies of a plan or section submitted to him under sub-regulation (1) or such parts thereof as he thinks fit-

(a) to any person having a bona fide interest in the mine or part: or

(b) to the owner, agent or manager of an adjacent mine

64. Survey instruments and materials :-

The owner or agent shall provide accurate and reliable survey instruments and materials for the proper carrying out of all survey and levelling work and for preparing the plans and sections required under these regulations: and no other instrument or implement shall be used in connection with any such survey or levelling work.

65. List of plans, sections and instruments; and their storage :-

(1) All plans and sections, tracings or copies therefor, kept at a mine shall be serially numbered or suitably indexed.

(2) Suitable arrangements shall be made at every mine for the proper storage and maintenance of every plan and section and of all instruments and materials. Such arrangements shall, unless otherwise permitted by the Chief Inspector by an order in writing and subject to such conditions as he may specify, provide for flat storage of every plan and section maintained under Cls. (b), (c) and (d) of regulation 61(1).

(3) Every field book and other notes used in the preparation of plans and sections required under the regulations shall be duly indexed and kept in the office at the mine.

(4) A list of all plans and sections maintained under these regulations and under any orders made thereunder, and tracings or copies thereof: of all survey instruments provided under regulation 64 with their respective types, specifications and identification numbers: and of all field books and other notes kept under sub-regulation (3) shall be kept in a bound-paged book kept for the purpose, and shall be brought up to date whenever necessary. Every entry in the book shall be signed and dated by the surveyor, and countersigned and dated by the manager.

66. Preparation of plans by surveyors :-

(1) Every plan and section, and tracing thereof, prepared under the regulations shall be prepared by or under the personal supervision of a surveyor appointed under regulation 38.

(2) Every plan or section, or any part thereof, prepared by or under the personal supervision of a surveyor shall carry thereon a certificate by him to the effect that the plan or section or part thereof is correct, and shall be signed and dated by the surveyor and countersigned and dated by the manager on every occasion that the plan or section is brought up to date.

(3) Every tracing of a plan or section, or of any part thereof, shall bear a reference to the original plan or section from which it was copied and shall be certified thereon by the surveyor to be a true copy of the original plan or section. The certificate shall be signed and dated by him.

(4) If the surveyor fails or omits to show any part of the workings or allows any plan or section to be inaccurate, he shall be guilty of a breach of these regulations. Nothing in this regulation shall, however, exempt the owner agent or manager of his responsibility to ensure that every plan or section prepared, kept or submitted under these regulations or by an order made thereunder is correct and maintained up to date as required thereunder.

67. Plans and sections to be checked on change of ownership or re-opening :-

(1) When there is a change in the ownership of a mine or where a mine or part thereof is re-opened, or where in any mine or part thereof it is intended to start stoping operations or the extraction or reduction of pillars or blocks of minerals, the owner, agent or manager shall ensure himself that the plans and sections of the mine or part are accurate. If any doubt arises as to the accuracy of the plans and sections in any respect, he shall have accurate plans and sections prepared afresh of all accessible workings before any drivage or other work of development or stoping operations or of extraction or reduction of pillars or blocks of minerals is commenced.

(2) If the Regional Inspector is of the opinion that any plan or section prepared, kept or submitted under these regulations is inaccurate, he may, by an order in writing, require a fresh survey made and a new plan or section prepared within such time as he may specify therein.

(3) If the plan or section required to be prepared under sub-regulation (2) is not prepared within the time specified in the order or to the satisfaction of the Regional Inspector, or the plan or section is not prepared or brought up to date as required under these regulations, he may get the plan or section prepared by any other agency: and the cost thereof, as certified by the Chief Inspector, shall be defrayed by the owner of the mine and recoverable from him as an arrear of land revenue.

CHAPTER 7

Means of Access and Egress

68. Outlets from a mine :-

(1) No person shall be employed, or be permitted to enter or remain for purposes of employment, in any working below ground, unless the working is provided with at least two shafts or other outlets to the surface-

(a) with which every lode, reef, vein or mineral bed or deposit, or section thereof, for the time being at work has a communication so as to afford separate means of ingress and egress to the persons employed therein:

(b) which do not have their surface openings in the same building: and

(c) which are under the sole control of the manager : Provided that the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, permit the employment below ground of persons even in a case where the two shafts or outlets are not under the control of the same

manager.

(2) Suitable arrangements shall be made for persons to descend and ascend by each of such shafts or outlets. Where the shafts is vertical and more than 60 metres in depth, such arrangements shall be by means of a proper winding engine. Every such winding engine shall be so installed and maintained as to be constantly available for use. If any doubt arises as to whether any such arrangement is suitable or not, it shall be referred to the Chief Inspector for decision: Provided that. if required by the Regional Inspector by an order in writing a proper winding engine shall also be provided in a shaft more than 60 metres in depth even if it is not vertical.

(3) Such shafts or outlets shall not be less than 15 metres distant from one another at any point, and each shall be connected with the other by means of a walkable passage not less than 1.8 metres high and 1.5 metres wide, through the workings below ground that are served by such shafts or outlets : Provided that outlets made before the coming into force of these regulations may be closer than 15 metres but not less than 6 metres apart.

(4) Whenever the connexion between two outlets which are required to be maintained under sub-regulation (1) has been obstructed or found dangerous, only such persons as are necessary to clear the obstruction or to repair the dangerous part of the connexion or to make a new second outlet, as the case may be, shall be employed below ground until such time as the connexion has been re- established or a new second outlet has been provided.

(5) The foregoing provisions of this regulation with respect to shafts and outlets shall not apply-

(a) to a shaft which is being sunk or to an outlet which is being made:

(b) to any working for the purpose of making a connexion between two or more shafts or outlets; and

(c) to any working for the sole purpose of searching for or proving minerals; so long as not more than 20 persons are employed below ground at any one time in the whole of the workings below ground in connexion with a single shaft or outlet : Provided that if the single outlet is an unwalkable shaft (other than a shaft in the course of being sunk) and exceeds 30 metres in depth. It shall be provided both with ladders and with other means of raising and lowering persons : Provided further that nothing in this sub-regulation shall be deemed to authorize the driving of roadways for development purposes before a second outlet has been made in accordance with the said provisions.

(6) The Chief Inspector may, by an order in writing and subject to such conditions as he may specify, exempt from the operation of this regulation any mine in the case of which special difficulties exist which in his opinion make compliance with the provisions thereof not reasonably practicable.

69. Working shafts and winzes :-

(1) Every shaft or winze in use or in course of being sunk and every other outlet shall be made and kept secure.

(2) Every shaft (and every winze or raise intended to be used for purposes of winding or haulage) in the course of being sunk through strata which are not stable shall be provided with a permanent lining, either of timber, metal, brick, concrete or masonry, which shall at no time be more than six metres from the bottom of the shaft or winze : Provided that where iron or steel rings with a substantial lagging are used below the permanent lagging and are kept close to the bottom of the shaft, this distance may be increased to not more than 20 metres. If any doubt arises as to, whether the strata are stable or not, it shall be referred to the Chief Inspector for decision.

(3) Every shaft or winze regularly used for lowering and raising persons or materials. In which water seeps out of the strata, shall be provided with water garlands or other means of collecting and conducting away the seepage water.

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(4) The top, and all landing between the top and bottom, of every working shaft and winze, and the sump thereof shall be kept clear and free from loose materials, tools and debris.

70. Fencings and gates at outlets :-

(1) Every entrance to a mine from the surface, and the top and all entrances between the top and bottom, including the sump, if any, of every working, ventilating or pumping shaft or winze shall be kept securely fenced.

(2) Every walkable entrance from the surface to the workings below ground shall be provided with a substantial gate which shall be kept closed and locked when there are no persons below ground : Provided that where such entrance is not used as a means of Ingress or egress In or out of the mine, It shall be permanently closed so as to effectively prevent persons from entering therein.

71. Outlets from mine parts :-

Every part of a mine shall, where practicable, be provided with at least two ways affording means of egress to the surface. If any doubt arises as to whether the provision of two such ways is practicable or not. it shall be referred to the Chief Inspector for decision.

72. Periodic examination of outlets :-

(1) Every shaft and other outlet provided as required by regulation 68 shall be examined once at least In every seven days, by a mine foreman or other competent person. A report of every such examination shall immediately thereafter be recorded in a bound-paged book kept for the purpose and shall be signed and dated by the person making the examination.

(2) If at the time of such examination or at any other time. the shaft and other outlet is found to be not safe, it shall not be used for any purpose, except as a natural airway, until it has been made safe in all respects. Report of every such action taken shall be recorded In the book kept under sub-regulation (1).

CHAPTER 8

Ladders and Ladderways

73. Provision of ladderways :-

(1) Every shaft or winze, including a shaft or winze in the course of being sunk, which has an inclination exceeding 25 degrees from the horizontal, shall be provided with a ladderway from the top to the bottom: Provided that in the case of a shaft or winze In the course of being sunk. the ladderway may be provided to within such distance, not exceeding 20 metres, from the bottom as to secure it from danger during blasting operations, and a chain or rope ladder shall be provided from this point to the bottom of the shaft or winze: Provided further that where the Chief Inspector is of the opinion that compliance with the provisions of this sub-regulation is not reasonably practicable, he may. by an order in writing and subject to such conditions as he may specify therein, grant an exemption therefrom.

(2) Every working place shall be provided with platforms or other means of keeping a foothold, and where necessary, with ladders for climbing.

74. Ladders :-

(1) Every ladder used in a mine shall-

(a) be of strong construction:

(b) subject to the provision of sub-regulation (2). be securely fixed In the shaft, winze or stope at an inclination of not more than 80 degrees from the horizontal;

(c) be made continuous or without perceptible overlapping or break except at a platform or sollar:

(d) project at least one metre above the mouth of the shaft, winze, rise or stope and above every platform, except where strong holdfasts or handrails are provided:

(e) have rungs equally spaced and at a sufficient distance from the wall or from any timber to ensure proper foothold: and .

(f) be maintained in good repair.

(2) Except in respect of the lowest 10 metres of a sinking shaft or winze, no ladder shall be placed at an inclination of more than 80 degrees from the horizontal: Provided that the Regional Inspector may. by an order in writing and subject to such conditions as he may specify therein, permit a ladder to be fixed at a steeper Inclination.

75. Provision of sollars. etc :-

(1) If a ladderway provided under regulation 73 (1) exceeds 20 metres in depth and has an inclination of more than 30 degrees with the horizontal, platforms or sollars shall be provided at intervals of not more than 15 metres along the underlie or slope of the shaft or winze. Where the inclination is more than 60 degrees from the horizontal, the platforms or sollars shall be provided at intervals of not more than 10 metres.

(2) If a manhole is provided at any platform in any shaft or winze, it shall be placed behind the ladder leading up from the platform.

(3) Every opening in a platform provided for the handling of timber or other materials shall be effectively closed off from the rest of the platform.

76. Guarding of ladderways :-

(1) Every ladderway in a shaft or winze used for winding or other purposes shall be in a separate compartment or shall be adequately guarded from other compartments.

(2) Ever ladderway below any place or travelling roadway where persons are stationed or pass, shall be provided with a suitable cover or substantial fence or guard.

77. Carrying of materials on ladderways :-

No person shall carry or be permitted to carry a drill, tool, explosives or any loose material on a ladderway In a shaft or winze having an inclination of more than 45 degrees from the horizontal except so far as may be necessary for carrying out repairs ; Provided that nothing in this regulation shall prevent a person from carrying a drill, tool or explosives in a suitable sling or container secured to his person.

CHAPTER 9

Transportation of Men and Materials-Winding in Shafts

78. Appointment of winding engine-men and their duties :-

(1) No person shall be appointed as a winding engine-man unless he holds-

(a) in the case of an electric winding engine of 75 h.p. or more or of a steam or compressed air winding engine which has cylinders exceeding 30 centimetres in diameter, a I Class Engine-driver's Certificate; and

(b) in any other case, all Class Engine-driver's Certificate :

(2) Where special difficulties exist which make compliance with the provisions of sub-regulation (1) not reasonably practicable, the Chief Inspector may, by an order In writing and subject to such conditions as he may specify therein, relax the said provisions.

(3) No person, other than a winding engine-man appointed under sub-regulation (1) or a duly appointed assistant working under his direct personal supervision, shall operate any winding engine : Provided that in an

emergency any other competent person may be permitted to operate the engine.

(4) The name of the winding engine-man on duty, together with the period of his shift, shall be posted in the winding engine room. Where the Regional Inspector is of the opinion that the duties of any winding engine-man are unduly arduous, he may, by an order in writing, require the period of his shift to be reduced to such period, not less than five hours, as he may specify.

79. New winding installations :-

(1) When it is intended to bring into use any new winding installation for lowering and raising persons, the owner, agent or manager shall, not less than 30 days before such use, give notice of such Intention to the Chief Inspector and the Regional Inspector. The notice shall contain detailed specifications of the installation.

(2) If the Chief Inspector by an order in writing so requires, such additions or alterations shall be made to the installation, as he may specify in the order.

80. Construction and installation of winding equipment :-

(1) Every part of a winding installation, including headgear, shall be of sound construction and adequate strength, and shall be maintained in safe working order. If any doubt arises as to the foregoing, it shall be referred to the Chief Inspector for decisions.

(2) The engine shall be firmly connected to a rigid foundation and shall be so designed, constructed and maintained that, with the power provided, the raising and lowering of persons or materials can be carried out with ease, regularity and safety.

(3) Unless otherwise permitted in writing by the Chief Inspector and subject to such conditions as he may specify therein, every engine for winding shall be so situated in relation to the headgear that the winding rope shall not, in its extreme position, subtend in either direction an angle of more than one and a half degrees with the plane of the sheave or pulley used in connexion with the rope.

(4)

(a) The diameter of the drums or sheaves of the winding engine, and of the pulleys and sheaves used in connexion with the winding shall, unless otherwise permitted In writing by the Chief Inspector and subject to such conditions as he may specify therein, be not less than 80 times the diameter of the rope In the case of winding installations installed before the coming into force of these regulations and not less than 100 times the diameter of the rope In other cases : Provided that the Chief Inspector may, by an order in writing, require that in the case of any specified winding installation installed before the date aforesaid. the diameter of the said drums, pulleys or sheaves shall not be less than such size, up to 100 times the diameter of the rope, as he may specify in the order.

(b) The grooves of such sheaves or pulleys shall be suited to the diameter of such rope.

(c) Every pulley or sheave used in connexion with winding shall, while in motion, rotate in a vertical plane, and shall be maintained in such a condition that slipping is reduced to a minimum.

81. Spare rope to be kept in store :-

At every mine where a shaft or winze is used for lowering or raising persons, at least one spare winding rope, suitable for use in such shaft or winze, shall be kept in reserve.

82. Fittings of winding engines :-

At every shaft or winze, including a shaft or winze in the course of being sunk. where winding is effected by means of an engine, the following provisions regarding winding engines shall have effect, namely:

(1) There shall be on the drum such flanges, and also if the drum is conical or spiral, such other appliances, as will be sufficient to prevent the rope from slipping or coiling unevenly. Except in the "Koepe" system of winding, the end of the rope shall be securely fixed in such a manner that the rope is not unduly strained. There shall be at least two turns of the rope on the drum when the cage or other means of conveyance is at its lowest working point in the shaft or winze.

(2)

(a) There shall be provided one or more brakes on the drum which-

(i) if there are two cages or other means of conveyance, will hold such cages or other means of conveyance when the maximum torque is applied in either direction: or

(ii) if there is only one cage or other means of conveyance, will hold the loaded cage or other means of conveyance in mid-shaft when the maximum torque is applied downwards.

(b) At least one of the brakes shall be so designed that the brake remains at the "on" position except when operated.

(c) Where the brake or brakes are power-operated, at least one of them shall be arranged to be applied automatically at all times if the power supply fails. In no case shall a brake be operated by an auxiliary electric current.

(d) The brake on the drum shall be used only for the purpose of keeping such drum stationary and not for lowering the cage or other means of conveyance except in cases where the engine is to be worked at a very low speed, as when examining the winding rope or the shaft or winze.

(3) Where the winding engine is worked by steam or compressed air. a screw stop-valve shall not be used as the controlling valve of the engine.

(4) Every engine shall be equipped with a reliable depth-indicator (in addition

to any mark on the rope) showing to the winding engine-man the position of the cage or other means of conveyance in the shaft or winze and an automatic device that will ring a bell in the engine room when the ascending cage or other means of conveyance is at a distance of not less than two revolutions of the drum from the top of the shaft or winze. The depth-indicator shall be tested after every adjustment or replacement of the winding rope : Provided that, in the case of a winding engine installed before the coming into force of these regulations where compliance with the provisions of this sub regulation is not reasonably practicable, the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, grant an exemption from these provisions.

83. Shaft fittings :-

At every winding shaft or winze, other than a shaft or winze in the course of being sunk to which the provisions of regulation 87 shall apply-the following provisions shall have effect, namely :

(1)

(a) Efficient means shall be provided and maintained for interchanging separate, distinct and definite signals between the top of the shaft or winze and-

(i) the bottom or other permanent landing of the shaft: and

(ii) every inset for the time being in use. There shall also be provided and maintained efficient means for transmitting such signals from the top of the shaft or winze to the winding engine-man. All signals shall be transmitted by mechanical or electrical means.

(b) In signalling, the following code or signals shall be used and strictly observed: One Rap-Stop. Two Raps-Lower. Three Raps-Raise Four Raps-Men ready to ascend or descend. Four Raps in reply-Men may enter the cage or other means of conveyance. Any other signals shall be in addition to, and shall not interfere with the foregoing: Provided that the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, permit the use of any code of signalling other than that specified above.

(c) A printed copy of the code of signals, including additional signals, if any, shall be posted prominently at the top of the shaft or winze and at every such inset and landing and also in the winding engine room.

(d) No person other than the banksman, bellman or signalman shall give any signal unless he is an official of the mine or is authorized in writing by the manager to give signals.

(2)

(a) Where the shaft or winze is vertical and exceeds 45 metres in depth It shall be provided with sufficient number of guides to ensure smooth and safe travel of the cage or other means of conveyance.

(b) Where rope guides are used. the cheese-weights or the bottom clamps shall be kept so exposed as to permit regular examination.

(3) Above the topmost landing in every vertical shaft or winze "dogs" or other devices for holding the cage or other means of conveyance in the event of an overwind shall be provided, or the guides, runners or receivers shall be sprung.

(4) Where the shaft or winze is vertical, protective roofing or pent-house sufficient to prevent danger from anything falling in the shaft or winze, shall be provided and maintained at the bottom of the shaft or winze and at all landings where persons ascend or descend. The gap. both vertical and horizontal, between the protective roofing or pent-house and the top of cage when the cage is at the bottom of the shaft or winze, shall not exceed 15 centimetres.

84. Manwinding :-

At every shaft or winze, other than a shaft or winze in the course of being sunk, where a winding engine is used for the purpose of lowering or raising persons, the following provisions shall have effect, namely :

(1) In respect of every part of the winding installation, including pulleys or sheaves, cages, chains, distribution-plates and detaching-hooks, the following particulars shall be recorded in a bound-paged book kept for the purpose :

(a) Name of the manufacturer and the year of manufacture:

(b) Specifications and dimensions:

(c) Reference to every certificate supplied with the part: and

(d) And other details that may be necessary or required by the Regional Inspector. All entries in the book shall be made and signed by the engineer or other competent person, and shall be countersigned and dated by the manager.

(2) Whenever any part or article is replaced or any repaired part or article is used in any winding installation, the fact of such replacement or repair shall be recorded in the book kept under sub-regulation (1).

(3) Where drum-clutches are provided, the following provisions shall have effect, namely:

(a) The operating gear of the clutch of the drum shall be provided with locking gear to prevent inadvertent withdrawal of the clutch.

(b) Every engine used for the lowering or raising of persons shall have a suitable interlocking device so fitted that it is not possible :

(i) to unclutch any drum unless the brakes of such drum are applied: or

(ii) to release the brakes until the drum-clutch is fully engaged and securely

locked.

(c) Unless the cage or other means of conveyance attached to the drum is resting at the bottom of the shaft or winze, the drum shall not be unclutched unless the winding engine-man has assured himself immediately beforehand that the brake is fully applied.

(4) If the shaft or winze is vertical, except in the "Koepe" system of winding, there shall be provided between the rope and the cage or other means of conveyance a detaching-hook. The space between such detaching hook, measured from the centre of the hole for attaching it to the rope shackle and the detaching bell or plate when the cage or other means of conveyance is at its normal position at the top of the shaft or winze, shall not be less than 3.6 metres where a geared engine is used, and not less than 7.5 metres where a direct acting engine is used.

(5) If the shaft or winze exceeds 300 metres in depth, there shall be a clear over-run space of not less than 7.5 metres below the lowest landing place. The sump below the lowest landing place shall be kept free from water or other liquid matter to such an extent that in case of an overwind, the person riding in the cage or other means of conveyance will not be submerged.

(6) In the case of every shaft or winze exceeding 100 metres in depth, unless exempted by the Chief Inspector by an order in writing and subject to such conditions as he may specify therein, the engine shall be fitted with an automatically recording speed-indicator.

(7)

(a) In the case of every shaft or winze exceeding 100 metres in depth, there shall be provided an effective automatic contrivance to prevent over-speeding and over-winding, hereinafter called the "Automatic Contrivance." The Automatic Contrivance shall prevent the descending cage or other means of conveyance from being landed at the bottom of the shaft or winze or other permanent landing at a speed not exceeding 1.5 metres per second, and shall also control the movement of the ascending cage or other means of conveyance in such a manner as to prevent danger to persons riding therein. The Regional Inspector may, by an order in writing, specify the maximum speed of winding in any shaft: Provided that in case of any shaft or winze the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, grant exemption from the provisions of the sub - regulation.

(b) Tests of every Automatic Contrivance and every brake shall be made by the engineer or a competent person appointed for the purpose. In the following manner:

(i) Once at least in every seven days, by raising each cage or other means of conveyance, in turn, to pass the last control point above the topmost landing: and

(ii) once at least in every three months, by attempting to land the descending cage at a speed 25 per cent., in excess of the normal landing speed. For the purpose of this test, the setting of the Automatic Contrivance may be altered so that a pre-determined point in the shaft or winze is regarded as the landing. The results of every such test shall be recorded in a bound-paged book kept for the purpose and shall be signed and dated by the person making the test : Provided that where special conditions exist, the Chief Inspector may by an order in writing and subject to such conditions as he may specify therein, permit the tests aforesaid to be carried out in such other manner as he may specify in the order.

(c) Unless the Automatic Contrivance Is Infull and fixed engagement with the winding engine, it shall be fully engaged, either automatically or by the winding engine-man, whenever persons are to be lowered or raised; and a proper automatic indicator to show that this has been done shall be provided in such a position as to be easily seen by the banksman. No person shall be allowed to enter any cage or other means of conveyance until the indicator shows that the Automatic Contrivance has been fully engaged.

(8) Except where an Automatic Contrivance is provided to prevent over-winding. a point shall be fixed and marked on the indicator of the engine In such a way as to show when the cage or other means of conveyance is at a distance of not less than twice the circumference of the drum from the completion of the wind: and if such cage or other means of conveyance contains persons, the winding engine-man shall not, as soon as it has reached the point aforesaid, raise it for the remaining distance at a speed exceeding 1.2 metres per second.

(9) Where the only means of egress in a mine is by apparatus worked by steam or electricity, precautions shall be taken to ensure that the two winding engines do not fail simultaneously: and in particular in the case of electric winding engines, the engines shall be capable of being connected to two separate power supplies. Unless the Chief Inspector by an order in writing otherwise directs, the provisions of this sub-regulation shall be deemed to be satisfied if an emergency winding gear is maintained.

(10)

(a) Except in the "Koepe" system of winding, at the top of every shaft or winze where cages are used, suitable keps shall be provided and so arranged as to fall into the "on" position when the operating lever is released.

(b) At every inset where keps or folding platforms are provided, arrangements shall be made to lock the keps or platforms securely in the "off position: and when in the "off position, such keps or platforms shall leave the shaft or winze clear for the passage of the cage. In every such case, a proper automatic indicator to show the position on the keps or platforms, as the case may be, shall be provided in such a position as to be easily seen by the banksman.

(11)

(a) Unless otherwise permitted by the Chief Inspector by an order in writing and subject to such conditions as he may specify therein, every cage or other means of conveyance in which persons ride in a vertical or steeply inclined shaft or winze shall be-

(i) covered completely at the top ;

(ii) closed in at the two sides in a manner sufficient to prevent persons or things from projecting beyond the sides :

(iii) provided with a rigid hand bar fixed in a position where it can be easily reached by all persons in the cage or other means of conveyance, and

(iv) provided with suitable gates or other rigid fences such that the gap between the floor of the cage or other means of conveyance and the lowest part of the cage or fence, does not exceed 15 centimetres and that between any two adjacent members of the gate or fence does not exceed 25 centimetres. Gates or fences shall not open outwards ; and they shall be so fitted and maintained that they cannot be accidentally opened : Provided that so much of this sub-regulation as requires a covering at the top shall not apply in a shaft or winze which is less than 30 metres in depth.

(b) The floor of every cage or other means of conveyance shall be strongly constructed and so maintained as to prevent any part of the body of a person riding in the cage or other means of conveyance from projecting beyond the floor.

(12) Not more than such number of persons as may be authorized by the manager shall be allowed to ride in the same cage or same deck of a cage or other means of conveyance at one time, and a notice specifying such number shall be posted at the top of every shaft or winze and at every inset and landing : Provided that where the Regional Inspector is of the opinion that the number so authorized is high, he may, by an order in writing, require the manager to fix a lower maximum number of persons as may be specified by him.

(13)

(a) Unless permitted by the Chief Inspector by an order in writing and subject to such conditions as he may specify therein, the total load when the authorized number of persons ride at any one time in any cage or other means of conveyance shall not exceed 60 per cent.. of the maximum load when materials are wound.

(b) No person shall, when ascending or descending a shaft or winze, take with him any bulky material other than tools and instruments except when engaged in repairing the shaft or winze or with the written authority of the manager.

85. Multi-decks :-

Where a cage has two or more decks which are used simultaneously, each floor at a landing shall be connected by an effective signalling device with the

main floor of the landing : and only the banksman or the bellman or the signalman or an official, as the case may be, at such main floor shall give the action signal, and only after he has satisfied himself that all cage gates are closed.

86. Winding of materials :-

(1) Every' cage used for the raising or lowering of tubs shall be provided with catches or other effective contrivances to prevent the tubs falling out. The cage shall not be set in motion unless the catches or other effective contrivances are in position.

(2)

(a) The floor of every cage shall be kept clean , and no skip, bucket or tub shall be filled up to such a height that any of the contents can fall out.

(b) Before long timber, pipes, rails, or other material projecting over the top of the cage or other means of conveyance are lowered or raised, the projecting ends shall be securely fastened to the rope chains or bow.

87. Winding in sinking shafts :-

At very shaft or winze in course of being sunk. where a winding engine is used, the following provision shall have effect, namely:

(1) If the shaft or winze is vertical and exceeds 45 metres in depth, there shall be provided for each bucket or other means of conveyance a detaching-hook. Between the centre of the hole for attaching the detaching-hook to the rope shackle, and the detaching bell or plate, when the bucket or other means of conveyance is at the top landing. there shall be a clear over-run space of not less than 3.6 metres.

(2) Where the shaft or winze is vertical and exceeds 150 metres in depth-

(a) the bucket or other means of conveyance, when used for lowering or raising persons, shall be provided with sufficient cover overhead for protection from things falling down the shaft : and

(b) there shall be provided for each bucket or other means of conveyance a sufficient number of guides which shall be kept extended to within 22.5 metres of the shaft bottom at all limes when sinking is in progress: Provided that the Regional Inspector may. by an order in writing, require the provision of guides in a shaft or winze which is less than 150 metres in depth or is not vertical.

(3)

(a) There shall be provided and maintained two separate means of transmitting distinct and definite signals between the bottom and the top of the shaft or winze. Efficient means shall also be provided and maintained for transmitting such signals from the top of such shaft or winze to the winding engineman. The signalling appliance shall be examined by a competent person once at least in every 24 hours: and the result of every such

examination shall be recorded In a bound-paged book kept for the purpose and shall be signed and dated by the person making the examination.

(b) In signalling, the following code of signal shall be used and strictly observed: One Rap-Stop. Two Raps-Lower. Three Raps-Take up slack or raise. Four Raps-Take up slack or raise when men are riding. Any other signals shall be in addition to, and shall not interfere with, the foregoing: Provided that the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, permit the use of any code of signalling other than that specified above.

(c) A printed copy of the code of signals, including additional signals, if any, shall be posted prominently at the top of the shaft or winze and also in the winding engine room.

(d) Except while riding in a bucket or other means of conveyance, no person other than the chargeman or a person authorized in writing by the manager, shall give any signal.

(4) Every bucket or other means of conveyance in which persons or materials are conveyed, shall be of strong construction and so maintained as to prevent persons or materials from falling.

(5)

(a) At the top of the shaft or at the landing where the bucket or other means of conveyance is normally landed, suitable doors or covering shall be provided. Except as may be required for the passage of the bucket or other means of conveyance, the doors or covering shall always be kept closed.

(b) Where the shaft or winze has an inclination of 35 degrees or more from the horizontal and exceeds 45 metres in depth measured along its plane, persons working at the bottom shall also be protected by a suitable protective covering extending over the whole area of the shaft or winze, sufficient space being left therein only for the passage of the bucket or other means of conveyance : and the cover or scaffold shall be kept lowered-

(i) if the shaft or winze is vertical, to not more than 22.5 metres from the bottom: and

(ii) in any other case, not more than 30 metres from the bottom: Provided that where special circumstances exist, the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, grant an exemption from the provisions of this clause.

(6) Not more than such number of persons as may be authorized by the manager shall be allowed to ride in the bucket or other means of conveyance at one time; and a notice specifying such number shall be posted prominently at the top of the shaft or winze.

(7) When tools, implements or other materials, are lowered or raised, the banksman or chargeman, as the case may be, shall see that-

(a) the bucket is properly loaded ;

(b) materials are not loaded above the rim :

(c) long timber, pipes, rails, tools or other materials with ends projecting over the rim are securely fastened to the rope, chains or bow : and

(d) the bucket, before being sent away. is steadied, and the bottom and sides thereof are free from adhering material.

(8) Where guides are provided, the bucket or other means of conveyance shall be raised slowly from the bottom of the shaft or winze, until the rider is picked up.

(9) While persons are at work on any scaffold or platform in the shaft or winze, the following precautions shall be strictly observed :

(d) The scaffold or platform shall be secured to the sides of the shaft or winze In order to prevent It from swinging.

(b) The opening for the passage of the bucket or other means of conveyance shall be so protected as to effectively prevent anything falling through it.

(c) The scaffold or platform shall not be lowered or raised except under the orders of the chageman or other competent person.

88. Winding ropes etc :-

At every shaft or winze, where a rope is used for winding purposes, the following provisions shall have effect, namely :

(1)

(a) No rope, bar. link. chain or other attachment to a cage or other means of conveyance shall be used unless it is of good quality and manufacture, is free from any visible defect and is of adequate calculated strength : Provided that the Chief Inspector may, by an order in writing, prohibit the use of any rope, or type of rope, or bar link chain or other attachment where, in his opinion, such use is unsafe.

(b) A single-linked chain shall not be used. except for the short coupling chain attached to a cage or other means of conveyance. Such single-linked chain shall be attached to the safety hook through a distribution-plate or other approved appliance.

(c) Where safety-chains are used, their length shall be such that if the king-bolt breaks, the shock to the cage or other means of conveyance is as slight as possible.

(d) The attachment between the rope and the cage or other means of conveyance shall be of such type and be maintained in such manner as to obviate accidental disconnexion.

(e) In case of a doubt as to the fitness of any rope, bar. link, chain or other attachment used or intended for use, it shall be referred to the Chief

Inspector for decision.

(2)

(a) Except in a sinking shaft or winze less than 30 metres in depth, every winding rope shall be made of cold drawn steel wire, and the gauge of the wires used in the construction of such rope shall be suited to the diameter of the drums, pulleys and sheaves of the winding installation.

(b) In any shaft or winze, including a shaft or winze in course of being sunk, where persons are lowered or raised and where guides are not provided, no rope other than a rope of non-spinning type shall be used.

(c) No rope which has been spliced shall be used for winding purposes.

(d) No winding rope shall be used or continued in use, if its safety factor (1. e. the ratio between breaking load on the rope at any point and the maximum static load on it when the cage or other means of conveyance is at the lowest working point) is or becomes -

(i) less than 10 in the case of a shaft not exceeding 300 metres in depth :

(ii) less than 9 in the case of a shaft exceeding 300 metres but not exceeding 500 metres in depth ;

(iii) less than 8 in the case of a shaft exceeding 500 metres but not exceeding 700 metres in depth ;

(iv) less than 7 in the case of a shaft exceeding 700 metres but not exceeding 1,000 metres in depth :

(v) less than 6 in the case of a shaft exceeding 1,000 metres but not exceeding 1,500 metres in depth ; or

(vi) less than 5 in the case of a shaft exceeding 1,500 metres in depth.

(3)

(a) For every rope in use or intended for use, a certificate showing its breaking load, quality, construction and diameter (obtained from the manufacturer or supplier) and a history of its use, including a record of diameters of the drums, sheaves and pulleys used in conjunction with the rope, shall be kept in a bound-paged book kept for the purpose. All entries therein shall be made and signed by the engineer or other competent person, and shall be countersigned and dated by the manager.

(b) If in the case of a new rope a test certificate as to the amount of its breaking load is not available, it shall not be used unless a portion thereof, not less than three metres in length, has been cut off and tested in a laboratory, institution or test house approved by the Central Government for the purpose.

(4) No winding rope which has been in use for more than three and a half years shall be used for winding purposes : Provided that where the Regional

Inspector is satisfied that. due to sparing use, any such rope is in good condition even after the expiry of the said period he may. by an order in writing and subject to such conditions as he may specify therein, allow the use of such rope for a longer period. Every application for permission to use a rope after the period of three and a half years aforesaid shall be accompanied by a copy of the entries, in respect of the rope, in the book kept for the purpose under sub-regulation (3). and also by a certificate as to the strength of the rope obtained In the manner laid down in Cl. (b) of that sub-regulation. The certificate aforesaid shall relate to a piece of the rope cut off not more than three months prior to the application : Provided further that where the Regional Inspector is of the opinion that any rope has become unsafe for use in a shaft before the expiry of the period of three and a half years aforesaid, he may, by an order in writing, prohibit the use of such rope for winding purposes. An appeal against any such order may be preferred to the Chief Inspector.

(5)

(a) No mode or type of capping shall be used. which fails to withstand a load of at least 10 times the maximum static load thereon.

(b) The cappel of a round rope shall not be attached to the rope by rivets passing through the rope.

(c) In those forms of capping, in which the wires at the end of the rope are bent back on the rope Itself to form a cone, wedges formed by the lapping of soft iron wire shall be placed between the rope and that portion which is bent back. The length of the tapered portion of the socket shall be not less than 12 times the diameter of the rope.

(d) Where white metal is used in the capping of ropes, the tapered portion of the socket shall not be less than eight times the diameter of the rope

(e) If white metal is used in the capping of ropes-

(i) its melting point shall not exceed 300 degrees centigrade, and its temperature when poured into the socket shall not exceed 363 degrees centigrade:

(ii) in the length of rope which is to lie within the tapered part of the socket, the fibre core. if any. shall be cut out and the wires shall be untwisted and thoroughly cleaned : and

(iii) the socket shall be heated to a temperature "of 100 degrees centigrade before the while metal is poured into it.

(6) Except in the "Koepe" system of winding, every rope shall be recapped once at least in every six months or. if necessary, at shorter intervals and also after every overwind. Before every such recapping, a length including the capping, of at least two metres shall be cut off the rope. Each piece of rope so cut off shall be opened and its internal condition examined. The operation shall be carried out under the personal supervision of the engineer or other

competent person, who shall record the date and other particulars thereof (including the length of the rope remaining after recapping) in a bound-paged book kept for the purpose : and shall sign and date the same.

89. Suspension gear :-

(1) All parts of suspension gear In regular use shall, unless otherwise permitted by the Chief Inspector by an order in writing and subject to such conditions as he may specie therein, be renewed after a period of service of not more than ten years, and at shorter Intervals If necessary .

(2)

(a) All cage chains in general use and all other parts of a suspension gear between the rope and the cage or other means of conveyance, including the detaching hook, shall be taken apart, cleaned and carefully examined as to wear and tear (where necessary, by gauging) and for rust and cracks, once at least In every six months, or If necessary, at shorter Intervals. The various parts shall be annealed or given other proper heat-treatment before being refitted : Provided that In the case of such chains or gear manufactured from a steel which Is not liable to deterioration necessitating annealing or heat treatment. the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, grant exemption from the carrying out of this operation.

(b) Every detaching bell or plate used in connexion with a safety-hook shall be examined, and the opening therein checked by calipers or gauges, once at least in every 30 days.

(c) The operations and examinations required under this sub-regulation shall be carried out by or under the supervision of the engineer or other competent person who shall record the date and other particulars thereof in a bound-paged book kept for the purpose, and shall sign and dale the same.

90. Precautions after recapping, etc :-

After every installation or recapping of a rope and after every renewal or refitting of any suspension gear, the engineer or other competent person shall, after the cages or other means of conveyance fully loaded with materials have made five trips up and down the working portion of the shaft or winze, examine the cappel and other parts of the suspension gear to see that they are in proper working order. A report of every such examination shall be recorded in the book kept under regulation 89 (2) and shall be signed and dated by the person making the examination.

91. Examination of winding equipment :-

(1) It shall be the duty of the engineer or other competent person to examine-

(a) Once at least in every 24 hours-

(i) the attachment of the winding rope to the drum, the depth Indicator. every

part of the suspension gear in the shaft or winze, including cages or other means of conveyance and their gates, and every external part of the winding apparatus, upon the proper working of which the safety of person depends : and

(ii) the brakes of the winding engine :

(b) once at least in every seven days-

(i) each winding rope by passing the rope at a speed not exceeding one metre per second : and

(ii) the external parts of the winding engine, the guides and the signalling arrangements fitted in a shaft or winze :

(c) once at least in every 30 days, every winding rope. by passing the rope at a speed not exceeding 0.5 metre per second. For the purpose of this examination, the rope shall be cleaned of any encrusted dirt and grease at all places particularly liable to deterioration and at other places not more than 30 metres apart, throughout the length; and any reduction in the circumference of the rope and the superficial condition of the wires as to wear, corrosion, brittleness and fracture at every such place shall be noted : and

(d) once at least in every 12 months, the winding engine as to the condition of its internal parts.

(2) A report of every such examination shall be recorded in a bound-paged book kept for the purpose, and shall be signed and dated by the person who made the examination, and countersigned and dated by the engineer, or where there is no duly qualified engineer, by the manager.

(3) If on any examination made as aforesaid, there is discovered any weakness or defect by which the safety of persons may be endangered, such weakness or defect shall be immediately reported in writing to the engineer or other competent person and to the manager : and until such weakness or defect is remedied, the winding Installation shall not be used.

92. Gates and fences :-

(1) At the top of every shaft or winze and at every landing which is in use. there shall be provided suitable gates or fences which shall effectively close the openings into the shaft or winze at all times when a cage or other means of conveyance is not at the top or the landing. Except with the permission of the Chief Inspector by an order in writing and subject to such conditions as he may specify therein, every such gate at the top of a vertical shaft shall be self-operating.

(2)

(a) At every landing where it is necessary for persons to pass from one side of the shaft to the other, an adequate passby shall be provided for enabling them to do so without entering or crossing a winding compartment. Every passby so provided shall be not less than 1.8 metres high and 1.2 metres

wide, and shall be kept clear of all obstructions.

(b) No person shall enter or cross, or be permitted to enter or cross, the winding compartment of a shaft or winze except for the purpose of entering or leaving a cage or other means of conveyance or for undertaking an examination, repair or any other work therein : and no person shall be allowed to work in any such space unless the cages or other means of conveyance, if any, have been stopped and adequate precautions have been taken for the protection of such person.

93. Duties of persons riding or working in shafts :-

(1) No person shall get on or off a cage or other means of conveyance after the same has been signalled to be set in motion, or leave it until it has reached the appointed stopping place: nor shall any person ride on the top or edge of any cage or other means of conveyance except when engaged in an examination, repair or any other work in the shaft or winze.

(2) Every person, when at or about the top or bottom of a shaft or winze or any landing, shall obey the lawful orders and directions of the banksman or bellman, as the case may be.

(3)

(a) No person shall enter, or shall carry out any examination, repair or other work in, any winding compartment while winding operations are being carried on : and no winding shall be carried on or permitted while persons are engaged in such examination, repair or work except where winding is necessary for the same.

(b) The person In immediate charge of any examination, repair or other work In any winding compartment shall warn the banksman and the winding engineman that such examination, repair or work is about to be undertaken.

(c) Every person while engaged in any examination, repair or other work in a shaft or winze shall be accompanied by at least one other person : and all such persons shall be provided with effective safety belts unless otherwise efficiently protected against the risk of falling.

(d) Every person engaged in carrying out an examination, repair or work in a shaft or winze shall be protected by a suitable covering from objects falling from above. Every such person shall also be provided with a protective hat and shall wear the same when so engaged.

94. General precautions :-

(1) No unauthorized person shall enter, or be allowed, in a winding engine room.

(2) No adolescent or woman shall descend or ascend a shaft or winze In a cage or other means of conveyance unless accompanied by one or more adult males.

CHAPTER 10

Transport of Men and Minerals-Haulage

95. Haulage roadways :-

The following provisions shall have effect with respect to every length of road or roadway in a mine where materials are transported in tubs by means of gravity or mechanical power, namely :

(1) Every such road or roadway shall-

(a) be of adequate dimensions, and as far as practicable, shall be straight and of regular gradient ; and

(b) have tracks properly laid with rails of adequate section.

(2)

(a) Pulleys, sheaves and rollers that alter the direction of a rope shall be securely fixed.

(b) No person shall guide or adjust a moving rope into a drum, pulley, sheave or roller, except with a lever or other proper appliance.

(3) Where haulage is affected by one or more ropes, there shall be provided and maintained--

(a) at the top of every inclined plan, at least one stopblock or other effective contrivance to arrest tubs from running or moving out of control:

(b) at least one runaway switch or other effective contrivance below the first stopblock or other effective contrivance at a distance greater than the length of a set or train of tubs : Provided that such distance shall not exceed the length of a set or train of tubs by more than 10 metres : Provided further that where the Regional Inspector, by an order in writing, so requires, the stopblock and the switch or other effective contrivance aforesaid shall be so inter-coupled that they do not remain simultaneously ineffective :

(c) an attachment, behind an ascending tub or set or train of tubs of a back-stay, drag or other suitable contrivance for preventing the tub, set or train of tubs running back. Where an endless rope or chain is used, the provisions of this clause shall be deemed to have been satisfied if suitable automatic catches or other effective contrivances are provided at suitable intervals along the track to prevent the ascending tubs running back: Provided that the Regional Inspector may, by an order in writing and subject to such conditions as he may specify therein, grant exemption from the operation of this clause on grounds that compliance with the provisions thereof is not reasonably practicable :

(d) safety-hooks, jazz-rails or other suitable contrivances to prevent runaway in the forward direction :

(e) tub re-railers at intervals of not more than 250 metres ; and

(f) on every haulage road or roadway exceeding 30 metres in length, effective means of transmitting signals from every stopping place on the roadway to the place at which the machinery working the rope is operated. All signals shall be transmitted by mechanical or electrical means: Provided that the Regional Inspector may, by an order in writing require means of transmitting signals in the reverse direction also. If any doubt arises as to whether any means of transmitting signals is effective or not, it shall be referred to the Chief Inspector for decision.

(4)

(a)

(i) The following code of signals shall be used and strictly observed : One Rap-Slop when in motion. Two Raps-Lower or haul in slowly. Three Raps-Start when at rest. Four Raps-Raise or haul out slowly. Any other signals shall be in addition to and shall not interfere with the foregoing: Provided that the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, permit the use of any code of signals other than that specified above.

(ii) A printed copy of the code of signals, including additional signals, if any, shall be posted prominently at the place in which the machinery that works the rope is operated and at all regular stopping places along the road or roadway.

(iii) No person, other than a competent person or an official, shall give any signal.

(b) Where In any mine below ground, a system of haulage roadways (and conveyors. If any) extends to a distance of more than 600 metres from the shaft or the entrance to the mine, efficient telephonic communication shall be provided and maintained between the end of every such system and the bottom and top of the shaft or the entrance to the mine. as the case may be: Provided that where travelling is unduly arduous, the Regional Inspector may by an order in writing, require the provision and maintenance of telephonic communication in any other case also.

(c) Where telephones or electrical signals are provided-

(i) adequate precautions shall be taken to prevent signal and telephone wires from touching cables and other electrical apparatus :

(ii) signal wires shall be supported on insulators, and shall not be energized at more than 30 volts:

(iii) contact makers shall be so constructed as to prevent the accidental closing of the circuit ; and

(iv) in every mine or part thereof to which regulation 142 applies, all signalling or telephonic communication circuits shall be constructed, installed, protected, operated and maintained in such a manner as to be

intrinsically safe.

(5) At places where telephone receivers are installed or where signals and safety contrivances are regularly operated, every person using the telephone or operating any such signal or safety contrivance shall be afforded adequate protection against tubs moving out of control.

(6)

(a) Where any person is allowed to work or pass while the haulage is in motion, manholes for refuge shall be provided at intervals of not more than 10 metres: Provided that where the gradient is less than 1 in 6, such manholes may be provided at intervals of not more than 20 metres.

(b) Manholes shall be not less than 1.8 metres in height and 1.2 metres in depth, and not less than 0.75 metres but not more than one metre in width : Provided that the Regional Inspector may, by an order in writing and subject to such conditions as he may specify therein, permit the use as manholes of cross- roadways other than haulage roadways, of dimensions larger than aforesaid.

(c) Every manhole shall be kept clean and clear of obstruction, and white-washed both inside and for a distance of not less than 0.3 metre around the aperture.

(d) As far as practicable, all manholes shall be provided on one side of the haulage roadway.

(e) In case where there are serious practical difficulties in providing manholes as specified in CIs. (a) and (b), the Regional Inspector may, by an order in writing and subject to such conditions as he may specify therein, permit manholes to be at greater intervals or of other dimensions.

(f) Except where haulage is affected by means of an endless rope or chain, whenever the haulage rope is in motion, every person on the haulage roadway shall take shelter in a manhole.

(7) The manager or assistant manager or underground manager shall, by an order in writing, in respect of every haulage road or roadway, fix the maximum number of tubs, according as to whether they are loaded or not loaded, that may be coupled together to run as a set or train. A notice specifying the number of tubs so fixed shall be posted prominently at the top, and at all regular stopping places, of the haulage road or roadway.

(8) At all places where tubs are coupled or uncoupled, there shall be a clear space of not less than one metre-

(i) between the tubs and one side of the roadway : and

(ii) where there are two or more tracks, also between the adjacent tracks.

(9)

(a) When any roadway or face is in direct line with a haulage track and persons may be exposed to danger from runaway tubs, a strong buffer or other effective contrivance to prevent such danger shall be provided and maintained.

(b) A stop block or other effective contrivance shall be provided near the entrance of every tramming roadway branching off the main haulage road or roadway, and on every track which slopes towards a shaft or winze.

96. Travelling roadways :-

(1) Except when an exemption in writing has been granted by the Regional Inspector and subject to such conditions as he may specify therein, travelling roadways or compartments, separate from haulage roadways or compartments, on which haulage is effected by mechanical means or gravity, shall be provided for persons to travel to and from their working places.

(2) Every such travelling roadway or compartment shall-

(a) be not less than 1.8 metres high throughout

(b) where the inclination exceeds 30 degrees from the horizontal, be provided with suitable steps or ladders;

(c) where the inclination exceeds 45 degrees from the horizontal, be provided, in addition to steps or ladders, with hand rails or ropes so as to ensure safe travel : and

(d) where the inclination exceeds 60 degrees from the horizontal, be provided, in addition to the steps or ladders and hand rails or ropes, with suitable platforms at intervals not exceeding 10 metres measured along the slope.

(3) Except for purposes of inspection, examination or repairs, every person other than an official or a haulage attendant shall travel by the travelling roadway or compartment.

(4) Where persons using a travelling roadway or compartment have to cross a conveyor or a haulage worked by gravity or mechanical means, a suitable cross-over or cross-under bridge or other suitable device approved in writing by the Regional Inspector shall be provided.

(5) No haulage shall be used for the general conveyance of persons except with the permission in writing of the Chief Inspector and subject to such conditions as he may specify therein.

97. Tubs and their movement :-

(1)

(a) On every tub there shall be provided and maintained, at each coupling-end a strong buffer projecting beyond the end and so arranged that when two such tubs are in tandem, the gap between the innermost ends shall not be

less than 20 centimetres.

(b) On every side-tipping tub in use, safety-catches shall be provided to prevent accidental lipping. No tub or set or train of tubs shall be set in motion unless all the safety catches are properly secured.

(c) The attachment between a rope or locomotive and a tub or set or train of tubs, and the attachment between any two tubs in a set or train, shall be of a type approved by the Chief Inspector by a general or special order and so maintained as to obviate accidental disconnexion.

(d) The state of every buffer and drawbar of every tub in use and of every safety- catch, coupling-chain and other attachment shall be examined, once at least In every seven days, by a competent person appointed for the purpose. A report of every such examination shall be recorded in a bound-paged book kept for the purpose, and shall be signed and dated by the person who made the examination.

(2)

(a) When tubs are about to be moved, person likely to be endangered shall be warned.

(b) Two or more tubs shall not be moved by hand in close succession but shall be coupled and moved together. Two tubs shall be deemed to be in close succession when the distance between them at any time is less than 10 metres.

(c) No person shall cause or permit a tub to run uncontrolled except with the written permission of the manager : Provided that the Regional Inspector may, by an order in writing, prohibit the uncontrolled movements of tubs at any place if he is of the opinion that such movement is likely to cause danger.

(d) No person while taking a tub down a gradient exceeding 1 in 20 shall go in front of the tub ; and in every case where the conditions are such that a person cannot control the tubs from behind, he shall not take the tubs down unless sprags or other suitable contrivances are used to control it.

(e) Where required for use, a sufficient number of sprags of suitable material and dimensions shall be provided.

(f) Every tub while standing on a track having a gradient of more than 1 In 20. shall, unless held effectively by brakes or securely coupled to a haulage rope or locomotive, be effectively blocked, chained or otherwise secured.

(g) Except where haulage is effected by means of an endless rope. the coupling and uncoupling of tubs shall, as far as practicable, be done only when the tub or set of the tubs and the rope If connected to the set. Is not in motion.

(h) As far as practicable, tubs shall not be coupled or uncoupled on gradient.

(i) Whenever it comes to the attention of a haulage attendant that a tub being hauled by a rope, chain, locomotive or other mechanical means has got derailed, he shall immediately cause the haulage to be stopped. The tub shall then be re-railed, or detached from the rope, etc. before the haulage is started again.

(3) No person shall ride on any tub or haulage rope except with the written authority of the manager. A list of all persons so authorized shall be maintained.

98. Protection at loading chutes :-

Every chute where tubs are loaded shall be provided with suitable gates for holding back the column of material.

99. Haulage engines and ropes :-

(1) Every haulage engine shall be provided with an effective brake.

(2)

(a) No rope shall be used for purpose of haulage if it has any serious visible defect over any length.

(b) Every rope which is capped shall be recapped once at least In every six months and, if necessary, at shorter intervals., under the supervision of a competent person.

(c) For every haulage rope in use. a record of size. construction, quality, name of supplier, and dates of installation and of recapping, shall be kept In a bound- paged book kept for the purpose, and all entries therein shall be made by the competent person who shall sign the same and date his signature.

100. Roadway conveyors :-

(1) Every roadway conveyor shall be so installed that-

(a) between the conveyor and one side of the roadway, there is a travelling space free from obstruction not less than one metre wide :

(b) the conveyor or any part thereof does not scrape against wooden props or supports;

(c) the anchoring of the return station of the conveyor is independent of the face or roadway support.

(2) Where the inclination of the conveyor is such as to give rise to danger from sliding objects or material, suitable devices shall be used to provide adequate protection against such danger.

(3) On every length of roadway in which a conveyor Is Installed for transporting loads over a distance exceeding 30 metres, there shall be provided and maintained effective means of transmitting signals from every point on the length of the road to the place at which the machinery working

the conveyor is operated: Provided that the Regional Inspector may, by an order in writing, require means of transmitting signals in the reverse direction also.

(4) No belt conveyor shall be used in a mine below ground without the permission in writing of the Chief Inspector and subject to such conditions as he may specify therein.

101. Examination of haulage engine and track :-

(1) It shall be the duty of a competent person to examine carefully-

(a) once at least in every 24 hours, every haulage engine, brake-wheel, rope and other appliance in use : and

(b) once at least in every seven days, every track where the haulage is effected by means of mechanical power or gravity, and every safety contrivance fitted thereon

(2) A report of every such examination shall be recorded in a bound-paged book kept for the purpose, and shall be signed and dated by the person who made the examination.

102. Examination of haulage and travelling roadways :-

It shall be the duty of the mine foreman or other competent person to examine carefully, once at least in every seven days. (he state of all haulage and travelling roads and roadways, including roadways leading to all (he outlets of the mine which are in use. A report of every such examination shall be recorded in a bound-paged book kept for the purpose, and shall be signed and dated by the person who made the examination.

103. Locomotives :-

(1) No locomotive shall be used below ground otherwise than in accordance with the permission in writing of the Chief Inspector and subject to such conditions as he may specify therein.

(2) No locomotive shall be used where (he gradient exceeds I In 15.

(3) No person other than the driver shall ride on any locomotive unless authorized in writing to do so by the manager.

(4) Except during shunting operations, (he locomotive shall lead (he tub or set or train of tubs.

104. Movement of railway wagons :-

(1) No adolescent shall be employed in moving railway wagons.

(2) The movement of railway wagons shall be carried on under the supervision of a competent male person appointed for the purpose who shall himself control the brake.

(3) Before wagons are moved, persons likely to be endangered shall be

warned by the competent person appointed under sub-regulation (2).

(4) No person shall move or attempt to move a wagon by pushing at the buffer. or by pulling from in front.

(5) Where two or more wagons are moved simultaneously, the wagons shall be coupled together : and the number shall not exceed the number which can be effectively controlled. They shall be moved only by pushing from (lie sides or from behind (lie last wagon.

(6) No locomotive or wagon shall be moved when the natural light is Insufficient, unless the approaching end is distinguished by a suitable light or is accompanied by a person carrying a lamp.

(7) No person, other than the competent person appointed under sub regulation (2), shall pass immediately in front of wagons moving under bins or screens, nor between moving wagons and the under-structure of the bins or screens.

(8) No person shall be upon the buffer of a locomotive or wagon in motion unless there is a secure handhold, or stand thereon unless there is also a secure footplace. No person shall pass over the couplings between any two wagons while the wagons are moving.

(9) No person shall cross a line of rails by crawling or passing underneath a train or wagon, nor shall a person sit or sleep underneath a wagon.

(10) Wherever railway wagons are specially placed so as to afford a thoroughfare, such thoroughfare shall be not less than five metres in width.

(11) No material shall be placed or dumped within 1.2 metres from either side of a track of rails.

105. Fencings and gates :-

(1) Where any haulage road or tramline passes over a public road, suitable gates shall be provided to prevent danger to public from moving tubs, sets or trains of tubs or locomotives. Every such gate shall be fitted with a danger signal and when the natural light is insufficient, also with warning lamps.

(2) Where occupied buildings are situated within 15 metres of any haulage road or tramline, a substantial fence shall be provided and maintained between such buildings and the haulage road or tramline.

CHAPTER 11

Mine Workings

106. Open-cast workings :-

In open-cast workings, the following precautions shall be observed, namely:

(1) In alluvial soil, morum, gravel, clay, debris or other similar ground-

(a)

(i) the sides shall be sloped at an angle of safety not exceeding 45 degrees from the horizontal or such other angle as the Regional Inspector may permit by an order in writing and subject to such conditions as he may specify therein : or

(ii) the sides shall be kept benched, and the height of any bench shall not exceed 15 metres and the breadth thereof shall not be less than the height: Provided that the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, exempt from the operation of this clause any working in the case of which special difficulties exist, which in his opinion make compliance with the provisions thereof not reasonably practicable : and

(b) where any pillar is left in situ for the purpose of measurements, its height shall not exceed 2.5 metres ; and where the height of such pillar exceeds 1.25 metres, the base of the pillar shall not be less than 1.5 metres in diameter.

(2)

(a) Where "float" or other similar deposit is worked by manual means on a sloping face, the face shall be benched and the sides shall be sloped at an angle of not more than 60 degrees from the horizontal. The height of any bench shall not exceed six metres and the breadth thereof shall not be less than the height : Provided that where the ore-body consists of comparatively hard and compact rock, the Regional Inspector may, by an order in writing and subject to such conditions as he may specify therein permit the height of the bench to be increased up to 7.5 metres while its width is not less than six metres : Provided further that in case of a mine or part where special difficulties exist, the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, relax the provision of this sub-regulation.

(b) Where in any mine or part it is proposed to work by a system of deep-hole blasting and/or with the help of heavy machinery for its digging, excavation and removal in such manner as would not permit of compliance with the requirement of sub-regulation (1), the owner, agent or manager shall, not less than 60 days before starting such work, give notice in writing of the method of working to the Chief Inspector and the Regional Inspector and no such work shall be commenced or carried out except in accordance with such conditions as the Chief Inspector may specify by an order in writing. Every such notice shall be in duplicate, and shall give the details of the method of working. Including the precautions that are proposed to be taken against the danger from falls of sides and material.

(3) In an excavation in any hard and compact ground or in prospecting trenches and pits, the sides shall be adequately benched, sloped or secured so as to prevent danger from fall of sides.

(4) No tree, loose stone or debris shall, unless otherwise permitted in writing by the Chief Inspector, be allowed to remain within a distance of three metres

from the edge or side of the excavation.

(5) No person shall undercut any face or side, or cause or permit such undercutting as to cause any overhanging.

107. Underground workings :-

In every mine worked by a system of working below ground, the following provisions shall have effect, namely :

(1) Unless otherwise permitted by the Regional Inspector by an order in writing, and subject to such conditions as he may specify therein, the height of every main drive shall be not less than 1.8 metres.

(2) The dimensions of pillars or blocks formed in any vein. load reef or mineral bed or deposit shall be such as to ensure stability of the workings during the development, and sloping stages, and between such stages.

[(3) No extraction or splitting or reduction of pillars or blocks of minerals shall be commenced, conducted or carried out except with the prior permission in writing of the Chief Inspector and in accordance with such conditions as he may specify therein. An application for such permission shall be accompanied by an up-to-date plan of the area where the pillars or blocks of minerals are proposed to be extracted or reduced, showing the proposed extent of extraction or reduction, the manner in which such extraction or reduction is proposed to be carried out, the thickness and other characteristics of the mineral deposit, the rate and direction of general dip and of the pitch of the vein. the nature of hangwall. and foot-wall, the stoping width, the depth of the workings, and such other particulars as the Chief Inspector may require. A copy of the application and the plan shall simultaneously be sent to the Regional Inspector.

(3-A) The operations of extraction, splitting and reduction of pillars or blocks of minerals shall be commenced, conducted or carried out in such a manner as to prevent, as far as possible, the extension of a collapse in the sloped out area over-riding the pillars or blocks of minerals that have not been extracted.]

(4) Nothing in sub-regulation (3) shall prevent the splitting or reduction of any pillar or block of mineral bed or deposit where, in the opinion of the manager, such work is necessary for haulage, ventilation, drainage or any other purpose necessary for the proper working of the mine, if 14 days' previous notice in writing of the intention to commence such

(5) Proper provision shall be made to prevent the premature collapse of workings : and adequate steps shall be taken to isolate, control or remedy any such collapse which may occur.

108. Powers of Inspectors :-

If in any mine or part thereof, it appears to the Regional Inspector that the provisions of regulations 106 and regulation 107 or of any order issued under any of these regulations, have not been complied with, he may give notice in

writing to the owner, agent or manager requiring him to take such protective measures, within such time, as he may specify in the notice. In case of non-compliance with the requirements of the notice, the Regional Inspector may, by an order in writing, prohibit until the requirements specified in the notice are complied with to his satisfaction, the employment of any person other than those required for complying with the said requirements, in the part or parts of the mine in which protective measures are required to be taken.

108A. Pointing out of contraventions during inspections :-

(1) If the Chief Inspector or an Inspector, during his inspection of any mine, finds or comes to know of any contravention of any provisions of the Act or the regulations, rules, bye-laws or orders made thereunder, he shall enter such contravention in an inter-leaved, paged and bound register kept for the purpose at the mine in Form VI and shall also point out such contravention to the owner, agent or manager, if present on the spot. The Chief Inspector or the Inspector making the entry in the register aforesaid shall duly sign such entries with date, and take carbon copy of the entries for his record : Provided that the Chief Inspector or the Inspector need not enter such contraventions which require confirmation after a survey or other further examination and he may subsequently intimate the owner, agent or manager, specifying the contraventions, if confirmed, and also any other contraventions which were. by inadvertence, not entered in the register aforesaid : [Provided further that an entry made in the register or the absence of entry therein as also a communication in pursuance of the first proviso or absence thereof shall not, in any way, limit the duties or obligations of a person under the Act or the regulations, rules, bye-laws or orders made therein.]

(2) The owner, agent or manager shall check the aforesaid register atleast once every day and countersign each entry therein. He shall get copies of such entries made out within three days of the date of entry and display one such copy on the notice board of the mine for a period of atleast fifteen days. When so required, the owner, agent or manager shall also supply copies of the entries to the registered trade unions of workers in the mine and to the State Government concerned.

(3) The owner, agent or manager of the mine shall return one copy, within a period not exceeding fifteen days from the date of the entry, to the Chief Inspector or the inspector who made the- entry with remarks thereon showing the action taken to remedy the contravention and the date on which such action was taken.] ¹ [(2) When an entry is made in the register :

(a) the owner, agent and manager shall each be deemed to know the entry, and

(b) a copy thereof shall be displayed within three days of the date of such entry on the notice board of the mine for not less than fifteen days.]

[4. THE REGISTER

(a) shall be kept available for inspection in the office at the mine for a period

of at least three years after the date of making of the last entry therein: and

(b) shall not be removed therefrom before the expiry of the said period except by or with the approval in writing of the Inspector.]

1. Subs by G.S.R. 818 (E).dated 6th September. 1989.

109. Workings under railways and roads, etc :-

(1) No workings shall be made and no work of sloping or extraction or reduction of pillars or blocks of minerals shall be conducted at, or extended to, any point within 45 metres of any railway, or of any public works in respect of which this regulation is applicable by reason of any general or special order of the Central Government, or of any public road or building, or of other permanent structure not belonging to the owner of the mine. without the prior permission in writing of the Chief Inspector and subject to such conditions as he may specify therein.

(2) Every application for permission under sub-regulation (1) shall specify the position of the workings of the mine in relation to the railway or public road or works or building or structure concerned, the manner in which it is proposed to carry out the intended operations, and the limits to which it is proposed to carry out the said operations, and shall be accompanied by two copies of a plan showing the existing and the intended mining operations in so far as they affect the railway or public road or works or building or structure concerned. A copy of the application shall also be sent in the case of a railway, to the railway administration concerned : and in the case of any public works as aforesaid, to such authority as the Central Government may by general or special order direct.

(3) Notwithstanding anything contained in these regulations, the stability of such railways, roads, buildings or structures shall not be endangered until they have been dismantled, diverted or vacated, as the case may be.

(4) Where the stability of such railway, road, works, building or structure has been endangered due to any mining operations, the Chief Inspector may by any order in writing, require the owner to construct in the mine below ground or on the surface such protective works within such time as he may specify in the order.

110. Protective works before, a mine is closed :-

(1) The Chief Inspector may, by an order in writing, require the owner of any mine to which regulation 6 applies, to construct in the mine below ground or on the surface such protective works within such time as he may specify therein.

(2) If the owner fails to construct such protective works within the time specified in the order, the Chief Inspector may get the works executed by any other agency, and the cost thereof, as certified by the Chief Inspector, shall be defrayed by the owner of the mine and recoverable from him as an arrear of land revenue.

(3) Until the protective works have been constructed to the satisfaction of the Chief Inspector, the means of entering the mine at not less than two entrances shall be kept intact and in working order.

111. Workings near mine-boundaries :-

(1) The owner, agent or manager of every mine shall fix the boundaries of the mines. Notwithstanding anything contained in sub-regulation (2), the boundaries shall not be changed except with the permission of the chief Inspector in writing and subject to such conditions as he may specify therein.]

[(2) No working shall be made within a distance Of 7.5 metres of the boundary of any mine; and In case of a disputed boundary, no working shall be made within a distance of 7.5 metres of the boundary claimed by the owner of an adjacent mine until such Lime as a binding agreement has been reached as to the correct boundary or the question has been finally determined by a court of law : [Provided that. where the workings of any seam, for any reason, are extended or get extended within any shorter distance than what is laid down hereinabove, the Chief Inspector may. by an order in writing require the owner to construct such protective works within such time as he may specify In the order.]

[(3)] Notwithstanding anything contained in sub-regulation (1), the Chief Inspector may. by an order in writing and subject to such conditions as he may specify therein, permit the workings of any mine or part thereof to extend to within any shorter distance than 7.5 metres aforesaid, or may require that the said workings shall not extend further than a specified distance, not exceeding 60 metres, of such boundary.

112. Support of workings :-

(1) The roof or back, hanging wall. footwall and sides of every roadway and working place, including airways and travelling roadways to second outlets, shall be made and kept secure.

(2)

(a) If the Regional Inspector is of the opinion with respect to any mine or part thereof that systematic support for the roof of back, hanging wall, footwall and sides, or either of them, ought to be provided and maintained for the purpose of securing the safety of persons employed therein, he may serve upon the owner, agent or manager an order in writing specifying the mine or part, stating that he Is of opinion aforesaid and requiring the provision and maintenance of support in accordance with a code of Timbering Rules which he may specify in the order.

(b) The manager shall hand over copies of the Code of Timbering Rules to the assistant manager, the underground manager and to all other supervising officials concerned, and shall also post such copies at conspicuous places In the mine.

(c) The manager, assistant manager, underground manager and such supervising officials shall be responsible for securing effective compliance with the provisions of the Timbering Rules, and the mine or part thereof shall not be worked in contravention thereof.

113. Setting of supports :-

(1) Every piece of timber used as a support shall be set securely and on a secure foundation : and whenever it becomes loose or broken shall, as soon as possible, be tightened or replaced.

(2) Every crib-set or pigstye used as a support shall be well built on a secure foundation, and shall be made and kept tight. Only rectangular pieces of material shall be used as members of a crib-set or pigstye so however that In case of timber, it shall be sufficient to joggle two opposite sides to provide fiat surfaces.

(3) The sides of every pack used for the purpose of support shall be well built on secure foundation. The pack shall be filled with debris or other suitable incombustible material, if so required by the Regional Inspector and shall be made as tight as practicable over Its whole area.

(4) Where sand or other material is stowed for the purpose of support, It shall be packed tight.

(5) Except where it is no longer necessary for purposes of support any support dislodged by or removed for any operation shall be replaced with the least possible delay.

(6) In every place wherein a fall of ground involving the displacement or breakage of supports has occurred, no work of clearing the fall or any part thereof shall be undertaken until the newly exposed roof or back. hanging wall, footwall or side has been examined and made safe-if necessary, by temporary supports

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114. Steep workings :-

(1) In workings having an inclination of 30 degrees or more from the horizontal, adequate precautions shall be taken to prevent danger to persons from falling or rolling of timber tools or other appliances or material.

(2) No person shall work or be permitted to work at any place having an inclination of 45 degrees or more from the horizontal, where he is likely to slip

115. Fencing and gates :-

(1)

(a) Unless otherwise permitted by the Chief Inspector by an order in writing and subject to such conditions as he may specie therein, the top of every

open-cast working shall be kept securely fenced.

(b) Where an excavation which has been formed as a result of any mining operation, extends within a distance of 15 metres from a public road or any building, substantial fencing shall be erected and maintained around the excavation.

(c) Where as a result of mining operations, a subsidence of the surface has taken place or is likely to take place and persons are likely to be endangered thereby, the owner, agent or manager shall keep the entire surface area securely and effectively fenced.

(2) Every entrance to a shaft, winze, ore-pass, chute, sump, stope or other dangerous place shall be provided with an efficient fence, barrier or gate so designed and constructed as to effectively prevent any person from entering or falling therein.

(3) Where a shaft, winze, rise, chute, ore-pass or stope leads directly into a working place or travelling roadway, such place or roadway and any working place situated on its dip side, shall be securely guarded or otherwise protected as to prevent danger to persons from falling materials,

(4) Every entrance from a roadway in a mine to a part of the mine which, for the time being, is neither being worked nor being used for any purpose, by reasons of any cause whatsoever, shall be provided with a fence, barrier or gate so designed and constructed as to prevent any person from inadvertently entering that part of the mine.

(5)

(a) Shafts and open-cast workings temporarily or permanently out of use and any place in or about an excavation which is dangerous, shall be completely filled in or kept securely fenced : Provided that if in the opinion of the Regional Inspector, any disused trench, pit or other excavation is dangerous, he may, by an order in writing, require the same to be filled in to the level of the adjacent ground.

(b) Before a mine is abandoned or the working thereof discontinued, the owner, agent or manager shall cause the top or entrance of every shaft, incline or other opening into the mine to be fenced by a structure of permanent character sufficient to effectively prevent persons falling into or entering the same.

116. Examination by mining mates :-

(1) Every place in a mine, whether below ground or in open-cast workings, including travelling roadways and landings, where work is carried on or where persons are stationed or required to pass shall be placed under the charge of a mining mate or other competent person.

(2) The mine or district assigned to a mining mate or other competent person shall not be of such a size, nor shall any additional duties other than his

duties under the regulations be such, as to be likely to prevent him from carrying out in a thorough manner the duties prescribed for him under the regulations. If any doubt arises as to the foregoing, it shall be referred to the Chief Inspector for decision.

(3)

(a) At the entrance to every mine or district, one or more stations shall be fixed by the manager : and except in the case of a mine worked by a continuous succession of shifts, no person other than the persons making the examination under Cl. (b) or an official shall pass beyond any such station until all the roadways and working places to which such persons are required to have access have been examined by the competent persons in charge of the mine or district and found to be satisfactorily ventilated and in safe condition. Every such station shall be legibly marked "STATION" and shall be of such a size as to accommodate all the persons employed in the district in any one shift.

(b) The mining mate or other competent person accompanied by such assistants as he requires shall, within two hours before the commencement of work in a shift, inspect every part of the mine or district assigned to him. In which persons have to work or pass during the shift, and all roadways and working places where work is temporarily stopped: and shall ascertain the condition thereof as regards ventilation, sanitation, the presence of gases, the stage of the roof or back, hanging wall, footwall and sides, and generally so far as the safety of the person is concerned : Provided that in the case of a mine or part to which regulation 142 applies, such inspection shall be made with an approved flame safety lamp: and that in the case of a mine or part to which regulation 123(1) applies, a cage containing suitable birds or other means of detecting carbon monoxide gas approved by the Chief Inspector shall be carried during every such inspection.

(c) Similar inspection shall be made once at least in every four hours during which the shift continues, of all the roadways and other working places to which persons engaged in the mine or district are required to have access.

(d) The mining mate or other competent person shall, at the completion of his shift, record without delay the result of his inspections in a bound-paged book kept for the purpose. Every such report shall be a full and accurate report of the inspections and shall include the following :

(i) the details referred to in Cl. [b] :

(ii) the number of persons working under his charge :

(iii) such instructions for the purposes of securing the safety of the persons as the competent persons may have given during his shift: and

(iv) the date and time of the inspections, the signature of the mining mate or other competent person, and the date and time when the report was written.

(e) In case of a mine where any other system of examination of working

places has been in force, the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, permit such a system to be continued in lieu of the system of examination laid down in this sub-regulation.

(4) In the case of a shaft in the course of being sunk, the competent person or chargeman shall-

(a) have entire charge of the shaft bottom and shall, in his shift, remain in the shaft while persons are at work at the bottom of the shaft. He shall be the last person to ascend the shaft at the end of the shift : and if his shift is succeeded immediately by another shift, he shall not leave the bottom of the shaft until after the descent of the chargeman of the succeeding shift : and

(b) after each round of shots, and at the beginning of every shift, and after every cessation of work in the shaft for a period exceeding two hours, shall examine the sides of the shaft and with such assistance as is necessary, remove all loose pieces before persons are allowed to descend.

117. Avoidance of dangers :-

(1) If at any time it is found by a competent person in charge of a mine or district, that by reason of any cause whatsoever, the mine or district is dangerous, he shall immediately withdraw all persons from the mine or district, and the mine or district shall be fenced off so as to prevent persons inadvertently entering therein.

(2) The competent person shall also immediately inform the manager or assistant manager or underground manager about the danger, and shall record the fact in the book kept under sub-regulation (3).

(3) The manager or assistant manager or underground manager shall make, or cause to be made by a competent person, a careful examination of the mine or district: and no person shall, except in so far as is necessary for enquiry into the cause of the danger or for the removal thereof or for exploration, be re-admitted into the mine or district until the mine or district is reported to be safe. A report of every such examination shall be recorded without delay in a bound-paged book kept for the purpose and shall be signed and dated by the person who made the examination.

(4) If the work of removing the danger is suspended before the danger is removed, the mine or district shall be securely fenced off so as to effectively prevent persons entering during the period of suspension.

(5) Notwithstanding anything contained in these regulations-

(a) where the danger arises from the presence of inflammable or noxious gas, the provisions of regulation 141 shall apply ; and

(b) where the appearance in any part of a mine of smoke or other sign indicates that a fire or spontaneous heating has or may have broken out. the provisions of regulation 120 shall apply.

118. General precautions :-

(1) Where several persons are working together in any place, one of them shall be placed in charge. No person shall be so appointed unless he is 21 years of age and has had not less than three years' experience in the working of a mine.

(2) No person shall work in any place other than his authorized working place.

(3) Every person shall carefully examine his working place before commencing work and also at intervals during the shift. If any dangerous condition is observed, he shall cease all work at that place and shall either take immediate steps to remove such danger or inform an official or the competent person in charge of the mine or district. Where several persons are working together the examination required by this subregulation shall be made by the person in-charge.

(4) No person shall work or travel on any ledge or footpath less than 1.5 metres wide, from which he will be likely to fall more than 1.8 metres, unless he is protected by guard rails, fence or rope suitably fixed and sufficiently strong to prevent him from falling.

(5)

(a) No person shall carry or be permitted to carry any load along a road or footpath having an inclination of 33 degrees or more from the horizontal.

(b) Every road or footpath, along which loads are carried by human agency, shall comply with the following requirements :

(i) its breadth shall not be less than one metre : and

(ii) at every place where the inclination exceeds 15 degrees from the horizontal, level steps shall be provided such that the vertical height of every step does not exceed 0.20 metre and the distance from the edge to the back is not less than 0.35 metre.

Explanation.-Gang-planks used for loading purposes shall not be deemed to be part of a footpath for the purposes of this sub-regulation : Provided that every gang-plank shall be so inclined or constructed as to give a secure foothold.

(6) No person shall be employed to lift, carry or move a load so heavy as is likely to cause bodily injury to, or injury to health of, that person. If any doubt arises as to whether risk of bodily injury or injury to health is involved, it shall be referred to the Chief Inspector for decision.

(7) Every person shall ensure that tools, wood, stones or other articles are not put down, or allowed to remain, in or near a shaft, winze, or opening into a stope where work is going on, in such a position as may result in their falling into the shaft, winze or stope, as the case may be.

(8) No person shall cast any material down any chute, pass or stope or other place until he has assured himself that no person is in the way.

(9) No person shall work or be permitted to work alone in any remote part of a mine where, if any accident occurred, he would not soon be discovered or assisted.

(10) No inexperienced person shall be employed in the mine for any work whereby he or other persons can be endangered except under the supervision and guidance of an experienced person.

CHAPTER 12

Precautions against Dangers from Fire, Dust, Gas and Water

119. Precautions against fire :-

(1)

(a) No oil, grease, canvas, or other inflammable material shall be stored in any mine except in a fire-proof receptacle. Grease or oily waste in workings below ground shall be regularly removed to the surface.

(b) No person shall place or throw, or cause or permit to be placed or thrown, any naked light or lamp or "chees stick" or "kai piece" on or near any timber, wooden structure, or other combustible material.

(c) Where explosives are used in blasting any timber forming part of stulls, sets and chutes, sufficient water shall be applied to the timber both before and after firing a shot.

(2)

(a) All surface structures and supports within a horizontal distance of 10 metres from all entrances to a mine shall be of incombustible material : Provided that this clause shall not apply to temporary structures, supports and coverings at the top of a shaft or winze which is in the course of being sunk and to the small lid of a shaft-covering operated by the rope cappel.

(b) Dead leaves or dry vegetation shall not be allowed to accumulate or remain, and combustible material other than material required for use within a period of 24 hours and inflammable materials shall not be stored, within a distance of 15 metres from any entrance to a mine, which is not effectively sealed off from the workings below-ground.

(c) No person shall light a fire or permit a fire to be lighted on the surface within a distance of 15 metres from any entrance to a mine, except by an order in writing of the manager and only for a special purpose specified in such order. All such orders shall be recorded in a bound-paged book kept for the purpose : Provided that this clause shall not apply to boilers other than vertical boilers.

(3)

(a) Except with the previous permission in writing of the Regional Inspector and subject to such conditions as he may specify therein no timber or other combustible material shall be used in the construction of, or in connexion with, any shaft lining or any room housing any machinery or apparatus below ground.

(b) Wood cuttings shall not be left in any working below ground, but shall be removed to the surface at the end of every shift.

(c) No person shall light a fire or permit a fire to be lighted in any working below ground.: Provided that-

(i) in the case of a mine to which regulation 142 does not apply, flame or electric welding or repairing apparatus may be used below ground if permitted by an order in writing of the manager or assistant manager or underground manager. Every such order shall specify the person who shall be in charge of the apparatus: and it shall be the duty of such person to bring the apparatus back to the surface when no longer required belowground: and

(ii) in the case of a mine where the provisions of regulation 142 apply, a flame or electric welding or repairing apparatus may be used below ground if a prior permission in writing has been obtained from the Regional Inspector and subject to such conditions as he may specify therein.

(d) No person shall leave a portable light or lamp below ground unless he has placed it in charge of some other person remaining therein.

(e) At the end of a shift, unless the mine is worked by a continuous succession of shifts, after all persons have left the mine, all lights shall be extinguished and all power cut off: Provided that nothing in this clause shall be deemed to prohibit the running of a mechanical ventilator or auxiliary fan below ground after the shift is over :

(f) Proper provisions shall be made to prevent an outbreak of fire or spontaneous heating below ground or the spread of fire to the mine from any adjoining mine; and adequate steps shall be taken to control or isolate any such fire or heating that may occur. Where in the opinion of the Regional Inspector, the provisions of this clause have not been complied with or the steps so taken are inadequate, he may, by an order in writing, require such additional precautions or steps to be taken within such time as he may specify therein. If any such order is not complied with within the specified period, the Regional Inspector may prohibit, until the order has been complied with, the employment in the mine or part. of any person whose employment is not, in his opinion, necessary for the purpose of complying with the order.

120. Precautions after a fire has broken out :-

(1)

(a) On the appearance in any part of a mine. of smoke or other signs indicating that a fire or spontaneous heating has or may have broken out, all

persons other than those whose presence in the mine is deemed necessary for dealing with the fire or heating shall be immediately withdrawn from the mine. No person other than those required for dealing with or sealing off the fire or heating shall be re-admitted in the mine until the fire or heating has been extinguished or effectively sealed off and an examination has been made by the manager or by the assistant manager, or underground manager and the mine has been declared to be safe. A report of every such examination shall be recorded in a bound-paged book kept for the purpose and shall be signed and dated by the person making the examination : Provided that the Regional Inspector may, by an order in writing and subject to such conditions as he may specify therein, permit the employment in the mine, of persons other than those required to deal with the fire or heating.

(b) The examination required by Cl. (a) shall be made with a cage containing suitable birds or other means of detecting carbon monoxide gas approved by the Chief Inspector.

(2) During the whole time that any work of dealing with or sealing off a fire or heating below ground is in progress-

(a) a competent person shall be present on the spot throughout :

(b) there shall be available, at or near the place, two smoke helmets or other suitable apparatus for use in emergency : and

(c) a cage containing suitable birds or other means of detecting carbon monoxide gas approved by the Chief Inspector shall be kept at all places where persons are employed.

121. Equipment for fire fighting :-

(1) A sufficient supply of sand or incombustible dust or sufficient portable fire-extinguishers shall be provided at every entrance to a mine, at every landing and the bottom of every shaft or winze in use, at every engine room and at every other place where timber, canvas, grease, oil or other inflammable material is stored.

(2) At every mine, the following provisions shall be made for dealing with any fire or heating below ground :

(a) a sufficient supply of sand or incombustible dust or sufficient portable fire-extinguishers shall be kept at suitable places at the entrance to every district: and

(b) In every mine employing 100 persons or more below ground on any one day in that or the previous year-

(i) where pipes containing water under pressure are available, an adequate number of taps, not more than 120 metres apart, shall be provided on such pipes. Hose-pipes not less than 60 metres in length with the necessary fittings, shall be kept readily available at suitable places below ground : or

(ii) portable water tanks fitted with hand-pressure pumps and hose- pipes not

less than 60 metres In length and the necessary fittings shall be provided.

(3)

(a) Soda-acid type extinguishers or water shall not be used for fighting oil or electrical fires.

(b) Foam type extinguishers shall not be used for fighting electrical fires.

(c) Fire extinguishers containing chemicals which are liable, when operated, to give off poisonous or noxious gases, shall not be provided or used below ground: Provided that nothing in this clause shall be deemed to prohibit the use below ground of Ore-extinguishers giving off carbon dioxide when operated.

(4) A competent person shall, once at least in every three months, examine every fire extinguisher so provided, and shall discharge and refill it as often as may be necessary to ensure that it is in proper working order. A report of every such examination or refilling shall be kept in a bound-paged book kept for the purpose, and shall be signed and dated by the person making the examination or refilling.

122. Apparatus for testing carbon monoxide :-

In every mine to which regulation 123(1) and regulation 142 apply, there shall be kept at the mine constantly available for use, two or more suitable birds or other means of detecting carbon monoxide gas approved by the Chief Inspector : Provided that the Regional Inspector may, by an order in writing, require compliance with this regulation in the case of any other mine also.

123. Precautions when a fire exists below ground :-

(1) In every mine in which a fire or spontaneous heating exists in workings below ground (whether such fire has been isolated by means of suitable seals or not), no work whatsoever shall be done in any part or section adjacent to the part or section on fire or believed to be on fire except with the permission in writing of the Chief Inspector and subject to such conditions as he may specify therein.

(2) In every mine to which sub-regulation (1) and regulation 142 apply, arrangements shall be made, once at least In every 30 days, to ascertain the atmospheric conditions behind the seal of an area of old workings or a fire or spontaneous heating, unless such seals are capable of resisting the force of an explosion: Provided that the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, exempt any mine or part thereof from the operation of this sub-regulation where in his opinion special difficulties exist which make compliance with these provisions thereof not reasonably practicable.

(3)

(a) Every seal erected to isolate or control a fire or spontaneous heating below ground shall be numbered, and shall be of adequate strength and shall

be so maintained as to prevent any leakage of air or gas through it. Where water is likely to accumulate behind any such stopping there shall be provided in the stopping a suitable pipe or other device to drain away the water without permitting any leakage of air or gas. etc.

(b) Where in any mine or part thereof the provisions of CI. (a) have not been complied with, or where in the opinion of the Regional Inspector the steps so taken are inadequate, he may give notice in writing to the owner, agent or manager, requiring him to take such protective measures, within such time, as he may specify therein. In case of non-compliance with the requirements of the notice, the Regional Inspector may, by an order in writing prohibit, until the requirements of the notice have been complied with to his satisfaction, the employment in the mine or part. of any person whose employment is not in his opinion necessary for the purpose of complying with the requirements aforesaid.

(4) A competent person shall, once at least in every seven days. Inspect all seals erected to isolate or control a fire or spontaneous heating below ground. During every such inspection, he shall ascertain the general condition of every seal, check it for leakage and presence of gas, and ascertain the temperature and humidity of the atmosphere outside the seal. For every seal, he shall place his signature, with date, on a check-board provided for the purpose at a suitable position on the seal and this record shall be maintained for a period of not less than three months. A report of every such inspection shall also be recorded in a bound-paged book kept for the purpose and shall be signed and dated by the person making the inspection : Provided that the Regional Inspector may, by an order in writing, require such inspection to be made at such shorter intervals as he may specify therein.

124. Precautions against dust :-

(1) The owner, agent or manager of every mine shall take such steps as are necessary for the minimising of emissions of dust and for the suppression of dust which enters the air at any work place below ground or on surface and for ensuring that the exposure of workers to respirable dust is limited to an extent that is reasonably practicable but in any case not exceeding the limits that are harmful to the health of person.

(2) For the purpose of this regulation, a place shall not be deemed to be in a harmless state for persons to work or pass or be therein, if the 8 hours time-weighted average concentration of airborne respirable dust,-

(i) in milligrams per cubic metre of air sampled by a gravimetric dust sampler of a type approved by and as determined in accordance with the procedure as specified by the Chief Inspector by a general or special order, exceed five in case of manganese ore and the value arrived at by dividing the figures of fifteen with the percentage of free respirable silica present in other cases , or

(ii) in case of respirable asbestos fibres, exceeds two fibres per millilitre of air sampled by an open membrane filter and measured by a phase contrast optical microscope of a type approved by and in accordance with the

procedure as specified by the Chief Inspector by a general or special order.

Explanation.-For the purpose of this regulation, the term "respirable asbestos fibre" means any fibrous form of mineral silicates of Chrysotile actinolite amosite, anthophyllite, crocidolite, tremolite or and admixture thereof with a length of greater than 5 micrometres and a diameter of less than 3 micrometres and a length to-diameter ratio greater than three is to one.

(3)

(a) The owner, agent or manager of every mine shall, within six months of the coming into force of the Metalliferous Mines (Amendment) Regulation, 1988 and once at least every six months thereafter or whenever the Regional Inspector so requires by an order in writing, cause the air at every work place where- airborne dust is generated to be sampled and the concentration of respirable dust therein determined: Provided that, if any measurement at any work place shows the concentration in excess of fifty per cent. or seventy five per cent. of the allowable concentration as specified in sub regulation (2) (hereinafter referred to as 'permissible limit') the subsequent measurements shall be carried on at intervals not exceeding three months or one month respectively : Provided further that, such measurements shall also be carried on Immediately upon the commissioning of any plant, equipment or machinery or upon the introduction of any new work practice or upon any alteration therein that is likely to bring about any substantial change in the level of airborne respirable dust.

(b) The location, frequency, timing, duration and pattern of sampling shall be such that the samples drawn are, as far as practicable, truly representative of the levels of dust exposure of work persons, and the sampling shall include,-

(i) 'static monitoring' to identify sources of dust emission and levels of dust concentration in working environment : and

(ii) 'personal monitoring' of air reaching the breathing zone of work persons. The sampling shall be duly supplemented by short-term sampling during peak-emissions.

(c) Samples shall be taken-

(i) by a person who has been specially trained for the purpose ; and

(ii) by the sampling equipment and accessories that have been checked to ensure correct maintenance and efficient operation thereof and examined, tested and calibrated on a date which is not earlier than one year.

(d) Respirable dust content of the samples and quartz content shall be determined as soon as practicable at a properly equipped laboratory approved in writing by the Chief Inspector in that behalf.

(e) All results of measurements of airborne respirable dust and all other relevant particulars shall be systematically recorded within fourteen days of the date of collection of samples, in a bound-paged book kept for the

purpose. Every entry in the book aforesaid shall be countersigned and dated by the manager within twenty-four hours after such recording.

(4) When the dust monitoring results have established that the permissible limit of dust concentration is being exceeded at any place, the relevant operation or operations causing excessive dust shall cease. The operation or operations shall not be resumed and allowed to be carried on until improvement have been made. In the prevention and suppression of dust and fresh sampling carried out immediately on resumption of the said operation or operations has established that such Improvements have reduced the dust concentration below the 'permissible limit': Provided that if the dust prevention and suppression device of any machinery or equipment fails to operate efficiently, the operation of the said machinery or equipment shall likewise cease and shall not be resumed until the defect therein has been rectified : Provided further that, purely as a contingency measure or as a secondary means of protection in a work situation wherein it is technically not feasible to reduce the respirable dust concentration below the 'permissible limit' or during the time period necessary to instal and commission any device or to institute any new work practice for dust prevention or suppression, compliance with the 'permissible limit' of dust exposure may be achieved by remote operation or by job rotation and failing which by the use of a respiratory equipment of a type specified from time to time by the Chief Inspector, by a general or special order in writing in this behalf.

(5) The owner, agent or manager of every mine where need of dust respirators might arise shall,-

(a) ensure that, subject to the second proviso to sub-regulation (4), no person goes into or works or is allowed to go into or work at any place where the respirable dust concentration is in excess of the 'permissible limit' unless he wears a suitable dust respirator : and

(b) provide-

(i) sufficient dust respirator of appropriate design at no cost to concerned work persons for their use :

(ii) for the dust respirators to be regularly cleaned, disinfected and maintained in efficient working order : and

(iii) for the proper fitting of and for thorough training of the concerned workers in the need for and correct use of respirators.

(6) To prevent the liberation and accumulation of dust and the propagation of airborne dust. the following provisions shall have effect, namely :

(a) dust shall be suppressed as close as possible to its source of formation:

(b) during any operation of drilling or boring on surface or below ground,-

(i) the production of dust shall be reduced by using bits which are sharp and

of proper shape, by keeping suitable pressure on the bits and by keeping the holes clear of the cuttings;

(ii) a Jet of water shall be direct on to the cutting edge to wet the cuttings or other equally efficient device approved by the Chief Inspector shall be provided and kept in operation throughout the drilling or boring operation to prevent the atmosphere being charged with dust. Where pneumatic drilling is performed water shall be turned on before turning on compressed air to the drill. When, however, drilling is done by hand, it shall be sufficient if holes are kept constantly moist during such drilling.

(c) Roadways on surface or below ground where mobile mining machinery ply shall be regularly wetted for shall be effectively treated with some other equally efficient agent to reduce dust being raised in the atmosphere.

(d) No plant for the screening or sorting of minerals or ores and as far as practicable, no heap of cinder cement, sand, mortar or other dry and fine material shall be placed within 80 m. of the top of any down-cast shaft or other intake airway or shall any such material be so handled as to make it air-borne and drawn into such shaft or airway.

(e) In every working below ground, -

(i) no machinery or equipment which is likely to emit dust in excess of 'permissible limit' shall be operated unless it is equipped with a suitable dust-prevention and suppression device and unless such device is operating efficiently ;

(ii) work places and rock walls In the vicinity thereof shall be, unless naturally wet throughout, regularly washed down to prevent accumulation of dust and shall be kept thoroughly wetted during work shifts;

(iii) a current of air sufficient to clear away the dust emitted by any machinery or operation and to dilute the dust concentration below the 'permissible limit' shall be maintained by means of general ventilation and if necessary, by local ventilation, so however that, as far as practicable, the velocity of air in any roadway or workplace shall not be such as to raise dust in the atmosphere :

(iv) after blasting, working places shall not be entered, unless sufficient time has elapsed for dust, smoke and fumes to be cleared by a current of air and the broken ore or rock shall not be moved unless it has been thoroughly wetted with water ;

(v) vehicles, tubs and conveyors used for transport of mineral or ores shall be maintained in good condition so as to minimise spillage or leakage, chutes, spiral conveyors, ore passes, bins, trippers, conveyors discharge points and skip loading and unloading installations shall be so controlled as to reduce the formation of dust to the minimum. Such material shall be also thoroughly wetted with water unless it is already wet or other effective means of dust suppression are used ;

(vi) unless, owing to special difficulties, exempted In writing by Regional Inspector in that behalf and subject to such conditions as he might specify therein, water in pipes in sufficient quantity and under adequate pressure and independent of any pumping system shall be provided and maintained so as to get maximum efficiency in the lying of dust.

(f) No process of crushing, breaking, disintegrating, opening, grinding, screening or sieving of ores, minerals or stone or any operation incidental thereto shall be carried out at any mine unless appropriate and effective dust control measures, such as, but not limited to isolation, enclosure, exhaust ventilation and dust collection are designed, provided, maintained and used.

(g) The exhausted air, below ground or on surface, which contains dust in excess of the 'permissible limit' shall be efficiently diluted and if necessary filtered so as to reduce the concentration of respirable dust therein below ten per cent. of the 'permissible limit' before being recirculated into working places or before emission into atmosphere.

(h) Every device used for the prevention and suppression of dust produced by any machinery, equipment or process as also for the filtering of the exhausted air and every dust respirator shall be inspected once at least in every seven days and shall be thoroughly examined and tested at least once in every period of six months and reports of the results of every such inspection, examination and test shall be recorded in the register maintained under Cl. (c) of sub-regulation (3).

(7) The owner, agent, or manager of every asbestos mine where mining operations are carried on and where 'permissible limit' of dust concentration is exceeded, shall also,

(a) Provide.

(i) sufficient protective clothing in good condition for the use of, at no cost to, the persons employed in such operations, as well as arrangements for proper dusting by means of a vacuum cleaner and for regular washing thereof :

(ii) suitable place for putting on and taking off the protective clothing :

(iii) well maintained washing and bathing places :

(iv) separate place for storing and changing personal clothing ;

(v) clean and hygienic place for taking food or snacks.

(b) because,-

(i) sorting, separation, grading, mixing, compression and packing of asbestos fibres and collection and disposal of waste including filtered dust to be carried out in such a manner that asbestos dust does not escape into air :

(ii) all machinery, plant, work premises and all internal surfaces of the building where milling operations are carried on to be maintained in clean

state and free of asbestos waste. Such cleaning shall be carried out by means of a vacuum cleaner or by some suitable exhaust draught and persons undertaking these operations or present thereat shall be provided with and wear appropriate respiratory equipment and protective clothing :

(iii) asbestos fibres to be packed in impermeable bags :

(iv) cautionary notices, in language or languages understood by the majority of work persons with standard warning symbol to be prominently displayed at every such place where milling of asbestos is carried on and where the 'permissible limit' of dust exposure is likely to be exceeded, to warn the persons as to the hazards health from asbestos dust. as to the need for the use of protective clothing and of appropriate dust respirator by persons entering therein and as to the synergistic effect on the hazards of smoking cigarettes, beedis, cigars, etc. and occupational exposure to asbestos dust.

(8) The Manager of every mine where airborne dust is generated, shall formulate and implement a scheme specifying,-

(a) the location, frequency, timing duration and pattern of sampling

(b) the instruments and accessories to be used for sampling ;

(c) the laboratory at which respirable dust content and quartz content of samples shall be determined ;

(d) the format in which the results of measurements of dust concentration and other particulars have to be recorded :

(e) the organisation for dust monitoring and for the examination, and maintenance of dust prevention and suppression measures and dust respirators; and

(f) the manner of making all persons concerned with the implementation of the dust control measures fully conversant with the nature of work to be performed by each in that behalf.

(9) The Regional Inspector may, where special conditions exist, permit, or require by an order in writing and subject to such conditions as he may specify therein, and variation in the foregoing provisions or in the manager's scheme.

(10) If any doubt arises as to any matter referred to in this regulation, it shall be referred to the Chief Inspector for decision.]

125. Precautions against irruption of gas :-

Where any working is extended to within 30 metres of any stoped-out area or disused workings containing or likely to contain an accumulation of inflammable or noxious gases, there shall be maintained at least one bore-hole not less than 1.5 metres in advance of the working. The operation of drilling the bore-hole shall be carried out under the supervision of a competent person, and where inflammable gas is present or likely to be present no lamp or light other than an approved safety lamp or torch shall be

used In any such working.

126. Recovery and exploratory work :-

(1) After an explosion of inflammable gas has occurred in a mine, only such persons as are authorized by the manager or by the principal official present at the surface, shall be allowed to enter the mine.

(2) When it is Intended or proposed to re-open a mine or part thereof, which has been isolated, sealed off or flooded with water to deal with a fire or spontaneous heating, the owner, agent or manager shall, not less than 14 days before the commencement of such work, give notice in writing of such Intention or proposal to the Regional Inspector and the Chief Inspector.

(3) Where It is intended to carry out any exploratory work in a mine or part below ground likely to contain irrespirable atmosphere-

(a) no party of less than three persons shall be allowed to proceed to carry out such work: and

(b) every such party shall carry a cage containing suitable birds or other means of detecting carbon monoxide gas approved by the Chief Inspector and also an approved flame safety lamp.

127. Danger from surface water :-

(1) Where any mine or part thereof Is so situated that there is any danger of inrush of surface water into the mine or part. adequate protection against such inrush shall be provided and maintained. If any dispute arises as to whether such protection is adequate or not. it shall be referred to the Chief Inspector for decision.

(2) No workings shall be made in any mine vertically below-

(a) any part of any river, canal, lake, tank or other surface reservoir: or

(b) any spot lying within a horizontal distance of 15 metres from either bank of a river or canal or from the boundary of a lake, tank or other surface reservoir. except with the permission in writing of the Chief Inspector and subject to such conditions as he may specify therein.

(3) Every application for permission under sub-regulation (2) shall be accompanied by two copies of a plan and section showing the existing position of the workings of the mine. the proposed lay-out of workings, the depth of the workings from the surface, the position and depth of any stoped-out area In the neighbourhood, all faults, and other geological disturbances and such other particulars as may affect the safety of the mine or of the persons employed therein.

Explanation..-Where sand or alluvium are lying In the course of a river. canal, lake, tank or reservoir, the depth from the surface shall be reckoned from the surface of the hard ground underlying such sand or alluvium.

128. Danger from underground inundation :-

(1) Proper provision shall be made in every mine to prevent irruption of water or other liquid matter from the workings of the same mine or of an adjoining mine.

(2)

(a) No working which has approached within a distance of 60 metres of any disused or abandoned workings (not being workings which have been examined and found to be free from accumulation of water or other liquid matter), whether in the same mine or in an adjoining mine, shall be extended further except with the prior permission in writing of the Chief Inspector and subject to such conditions as he may specify therein : Provided that if any heavy seepage of water is noticed in any working approaching, but not within 60 metres of. any such disused or abandoned working, such working shall be immediately stopped, and the Chief Inspector and the Regional Inspector shall forthwith be informed about the occurrence. The working shall not be extended further except with the prior permission in writing of the Chief Inspector and subject to such conditions as he may specify therein.

Explanation.-For the purpose of this sub-regulation, the distance between the said workings shall mean the shortest distance between the said workings measured in any direction whether horizontal, vertical or inclined.

(b) Every application for permission under Cl. (a) shall be accompanied by two copies of a plan and section showing the outline of such disused or abandoned workings In relation to the workings which are approaching the said workings, and such other Information as may be available in respect of the said workings.

(c) Except where otherwise permitted by the Chief Inspector by an order in writing and subject to such conditions as he may specify therein, no such working shall exceed two metres in width or height: and there shall be maintained at least one bore-hole near the centre of the working face, and sufficient flank holes on each side and where necessary, bore-holes above and below the workings, at intervals of not more than five metres. All such bore- holes shall be, and shall be constantly maintained, at sufficient distance in advance of the workings: and such distance shall in no case be less than three metres. These precautions shall be carried out under the direct supervision of a competent person specially authorized for the purpose.

(d) The precautions laid down in Cl. (c) shall also be observed in any other working where any heavy seepage of water is noticed whether approaching disused or abandoned workings or not.

129. Intentional flooding :-

(1) When the owner, agent or manager intends or proposes, by introducing water from the surface or from any other part of the mine or from an adjacent mine, to flood any part of the workings of his mine. he shall give in writing

not less than 14 days' notice of such intention or proposal to the Chief Inspector and the Regional Inspector and to the management of all adjoining mines and of such other mines at might be affected by such flooding : Provided that the Regional Inspector may, by an order in writing and subject to such conditions as he may specify therein, permit such operations to be commenced on any day prior to the expiry of the said 14 days : Provided further that the Regional Inspector may, by an order in writing, either prohibit any such operation or require that such operation shall not be commenced until such precautions, as he may specify therein, have been taken to his satisfaction.

Explanation.-For the purposes of this sub-regulation, a mine shall have the meaning assigned to it under regulation 33.

(2) If the operations in respect of which notice is given under sub-regulation (1). are not commenced within 60 days from the expiry of the said 14 days, the notice shall be deemed to have lapsed and the provision of the sub-regulation (1) shall apply as if no such notice had been given.

130. Construction of a reservoir, dam or other structure :-

(1) Where In any mine it is intended to construct a reservoir, dam or other structure to withstand a pressure of water or other material which will flow when wet, or to control an Inrush of water (other than a reservoir, dam or structure for storing small quantities of water), the owner, agent or manager shall give In writing not less than 14 days' notice of such Intention to the Regional Inspector. Every such notice shall be accompanied by two copies of plans and sections showing the design and other details of the proposed construction : Provided that where the safety of the mine or of the persons employed therein Is seriously threatened, the provisions of this regulation shall be deemed to have been complied with if the said notice is given to the Regional Inspector as soon as the work of construction is commenced : Provided further that where such a reservoir, dam or other structure was constructed before the coming into force of these regulations, the said copies of the plans and sections shall be submitted to the Regional Inspector within three months of the coming into force of these regulations. Where these details are not available, the Regional Inspector shall be informed of the fact within the aforesaid period.

(2) The Regional Inspector may. by an order in writing, require such modifications or alterations to be made in the design of any such reservoir, dam or structure, as he may specify therein.

CHAPTER 13

Ventilation

131. Standard of ventilation :-

(1) It shall be the duty of the owner, agent or manager of every mine to take such steps as are necessary for securing that there is constantly produced In all parts of the mine below ground, ventilation adequate to clear away smoke,

steam and dust, to dilute gases that are inflammable or noxious so as to render them harmless: to provide air containing a sufficiency of oxygen; and to prevent such excessive rise of temperature or humidity as may be harmful to the health of persons. If any doubt arises as to whether the ventilation in a mine or part thereof is adequate or not, it shall be referred to the Chief Inspector for decision.

(2) For the purpose of this regulation, a place shall not be deemed to be in a safe state for persons to work or pass therein if the air contains either less than 19 per cent., of oxygen or more than 0.5 per cent., of carbon dioxide or any noxious gas present in quantity likely to affect the health of any person: and such place shall not be deemed to be normally kept free from inflammable gas if the percentage of such gas at any point in that place exceeds one and a quarter.

(3) If with respect to any mine or part thereof the Regional Inspector is of the opinion that the ventilation is not adequate, he may, by an order in writing, require the installation and maintenance of such a mechanical ventilator as is capable of producing adequate ventilation in the mine or part.

132. Mechanical ventilators and their fittings :-

(1) Every mechanical ventilator shall be installed in a fire-proof housing situated at a safe distance from the opening, shaft or winze: and every mechanical ventilator, other than an auxiliary fan, shall be so designed and maintained that the current of air can be reversed when necessary

(2) In every mine to which regulation 142 applies. If electricity is used for driving the mechanical ventilator, current should be supplied to the drive-motor of the ventilator through a separate circuit from the main distribution point of the mine.

(3) There shall be provided and maintained at every main mechanical ventilator-

(a) a suitable pressure-recording gauge or water-gauge: and

(b) except where the ventilator is driven by a constant speed drive, a recording instrument by which the speed of the ventilator shall be continuously registered.

(4) At every shaft or winze ordinarily used for lowering or raising of persons or material, where a mechanical ventilator is installed, there shall be provided a properly constructed air-lock: Provided that unless the Regional Inspector so required by an order in writing, the provision of this sub-regulation shall not apply to a shaft or winze where a mechanical ventilator was installed before the coming into force of these regulations.

(5) The flow of air produced by a mechanical ventilator shall, as far as practicable, be so arranged as to aid the natural ventilation.

(6) Every mechanical ventilator shall be in charge of a competent person

appointed for the purpose, who shall not be entrusted with any other additional duties which may require him to go outside the fan-house or which may interfere with his duties as In-charge of the mechanical ventilator.

(7) In every mine in which a mechanical ventilator is in use, the quantity of air circulating in every ventilating district shall be measured once at least in every 30 days and recorded in a bound-paged book kept for the purpose.

133. Standing orders :-

(1) The manager of every mine in which a mechanical ventilator other than an auxiliary fan is installed, shall submit to the Regional Inspector, within 60 days of the coming into force of these regulations, and in case of a new Installation, within 30 days of its installation, standing orders specifying the action that shall be taken with respect to the withdrawal of persons from the mine or part thereof in the event of a stoppage of the ventilator.

(2) The Regional Inspector may, by an order in writing, approve of such standing orders, either in the form submitted to him or with such additions and alterations as he may think fit; and the standing orders so approved shall be enforced at the mine.

(3) A copy of the standing orders shall be posted in conspicuous places In the mine, both above and below ground.

134. Splits and airways :-

(1) For the purpose of ventilation, every mine shall be divided Into such number of districts or splits as to ensure that separate current of fresh air Is made available in every such district or split.

(2) The Intake air shall be so arranged as to travel away from all stagnant water.

(3) In any mine or part where a mechanical ventilator is used, every drive, cross-cut, winze or rise which is a connexion between a main Intake airway and a main return airway shall, until it has ceased to be required and has been sealed off. be provided with at least two doors so spaced that whenever one door Is opened, the other door can be kept closed. Steps shall be taken to ensure that at least one of the doors Is always closed. Any such connexion which has ceased to be so required, shall be effectively sealed.

135. Brattices, doors, stoppings and air-crossings :-

(1) There shall be provided and maintained in every mine, such number of stoppings, doors and other devices as may be adequate to ensure compliance with the provisions of regulation 131. If any doubt arises as to the adequacy of such ventilation devices, It shall be referred to the Chief Inspector for decision.

(2)

(a) The space between the frame of every ventilation door and the roof and

sides of the road, shall be built up with masonry or concrete, not less than 25 centimetres in thickness.

(b) Every such door shall be self-closing: and whenever opened, It shall be closed as soon as possible, and shall not be propped or fixed so as. to remain open.

(c) If such door is required to be frequently kept open for the passage of men or materials, there shall be throughout every working shift, a door-attendant at the door.

(d) Unless required for purposes of control of fire or otherwise, if a door is not In use. It shall be taken off its hinges and placed in such a position that It shall not cause any obstruction to the air current.

(3)

(a) Every stopping between the main Intake and main return air-ways shall be constructed of masonry or brickwork, not less than 25 centimetres In thickness or such greater thickness as may be required by the Regional Inspector, and shall be faced with a sufficient thickness of lime or cement plaster to prevent leakage of air.

(b) Every stopping in use shall be kept accessible for Inspection.

(4) The partitions and walls of every air-crossing shall be not less than 25 centimetres in thickness if constructed of masonry or of concrete not properly reinforced, and not less than 15 centimetres in thickness if constructed of properly reinforced concreted.

(5) Every air-crossing, ventilation stopping, door or brattice shall be maintained in efficient working order and good repair.

(6) A competent person shall, once at least in every 30 days. examine every airway, air-crossing, ventilation stopping and door in use, and shall record the result thereof in a bound paged hook kept for the purpose, and shall sign the same and date his signature.

136. Auxiliary fans :-

(1) Every auxiliary fan-

(a) shall be installed, located and worked in such a manner that-

(i) a sufficient quantity of air shall, at all times, reach it so as to ensure that it does not re-circulate air: and

(ii) there is no risk of the air which it circulates being contaminated by any substantial quantity of inflammable or noxious gases or dust: and

(b) shall have an air-duct for conducting the air to or from the face or blind end; and such air-duct shall be so maintained as to minimize any leakage of air and to ensure an adequate supply of air to within 4.5 metres of the face or blind end.

(2) No auxiliary fan shall be started, stopped, removed, replaced or in any way altered or interfered with, except by or on the authority of an official.

(3) No person shall enter or remain in any place which is dependent for its ventilation on an auxiliary fan, unless such fan is operating efficiently. Whenever the ventilation of any such place has been interrupted, whether by the stoppage of the fan or otherwise, no person shall so enter or remain therein, except for the purpose of restoring the ventilation, unless the place has been examined by a competent person and declared safe.

137. Precautions against fire in ventilation appliances :-

The covering of every shaft, winze or rise sealed off or covered for ventilation purposes, every fan-drift, duct or casing and every part of a mechanical ventilator or fan within such drift, duct or casing, and every air-crossing and ventilation door shall be constructed of fire-proof material : Provided that this regulation shall not apply to the small lid of a shaft- covering operated by the rope cappel.

138. Ventilation plans to be brought up-to-date :-

As soon as any alteration is made in the ventilation of a mine, involving the erection or removal of an air- crossing or stopping or the alteration in the position or installation of a ventilator below ground, the erection, removal, alteration, as the case may be, shall be shown on the ventilation plan maintained under regulation 61.

139. Obstructions, interruptions and alterations :-

(1) No material or debris shall be allowed to accumulate in any level, drive, cross cut or any other part of the working below ground so as to impede the ventilation.

(2) Every roadway and working below ground which is not adequately ventilated shall be fenced or barricaded so as effectively to prevent persons entering the same.

(3) If any person becomes aware of any obstruction In, or interference with or deficiency of, ventilation in any mine or part thereof, he shall-

(a) if it falls within his power to remedy such obstruction, interference or deficiency, immediately take steps to do so: or

(b) cease all work at that place, and shall forthwith inform his superior official of such obstruction, interference or deficiency

(4) Whenever there is any interruption of ventilation by the stoppage of any mechanical ventilator, including an auxiliary fan. Installed below ground, the official in charge of the mine or part shall Immediately take precautionary measures including withdrawal of men. if necessary, against dangers that may arise out of non-compliance with the provisions of regulation 131 to restore the ventilation in the mine or part.

(5) No person shall alter the general system of ventilation in any mine or part

except with the written authority of the manager : Provided that in an emergency, an official of the mine may carry out such alteration as he may deem necessary for the safety of persons, but he shall as soon as possible Inform his superior official and the manager about the same in writing.

140. Precautions against gas during de-watering and re-opening :-

(1) No disused mine or shaft shall be de-watered except under the constant supervision of a competent person: and during such de-watering, approved safety lamps or torches shall be exclusively used. and there shall also be kept burning at every place where persons are at work at least one approved flame safety lamp.

(2)

(a) The first Inspection of a mine or part which is re-opened after a discontinuance of mining operations for a period exceeding seven days and of any part of a mine after being de-watered, shall be made by a competent person with an approved flame safety lamp; and during such inspection, no additional light or lamp other than an approved electric torch or lamp shall be used.

(b) The result of every such inspection shall be recorded in a bound-paged book kept for the purpose, and shall be signed and dated by the person making the Inspection, and countersigned and dated by the manager.

141. Precautions against inflammable and noxious gases :-

(1) For the purpose of this regulation, inflammable gas shall be deemed to have been found or detected when it is indicated by the lowered flame of a flame safety lamp or, where methane indicators are used, they indicate one and a quarter per cent., or more of inflammable gas.

(2) When any person detects the presence of inflammable gas. he shall not brush or waft it out, but shall immediately withdraw from the place and shall inform his superior official about the same.

(3) Where in any place in a mine, inflammable or noxious gas Is detected, all persons shall be withdrawn from the place, and the place shall be immediately fenced off so as to prevent persons inadvertently entering the same. The competent person Incharge shall, without delay, take steps to remove the gas by Improving the ventilation.

(4) During the removal of such gas all persons, except those necessary for such removal, shall be withdrawn from the return side of the ventilating district in which the gas has been detected unless the quantity of gas is, in the opinion of the competent person, so small that such withdrawal is not necessary : Provided that where the danger arises from the presence of inflammable gas no naked light shall be used in the ventilating district in which the gas is detected.

(5) No person shall be re admilted into the place where the gas was detected

until a competent person has examined the place and has reported that the place is free from gas. Every such examination shall be made with an approved flame safety lamp and, in the case of noxious gas, also with a cage containing suitable birds or other means of detecting carbon monoxide gas approved by the Chief Inspector.

(6) Particulars of every occurrence referred to in sub-regulation (2) and of every examination made under sub-regulation (5), together with a statement as to where and when the gas was found and when it was removed, and in case of Inflammable gas. the percentage thereof shall be recorded In a bound-paged book kept for the purpose. Every such entry shall be signed and dated by the competent person making the report, and countersigned and dated by the manager.

(7) In any part of a mine. to which regulations 123(1) and regulation 142 apply, or where the Regional Inspector may require by an order in writing, all unused workings which have not been sealed off, shall once at least in every seven days be Inspected by a competent person for the presence of inflammable or noxious gas. A report of every such inspection shall be recorded in a bound-paged book kept for the purpose, and shall be signed and dated by the person who made the inspection.

142. Safety lamps to be used in gassy mines :-

No lamp or light other than an approved safety lamp or torch or other installation permitted under the Electricity Rules, 1956 , shall be used or permitted to be used below ground in any mine-

(a) in any part in which an explosion or ignition of inflammable gas has occurred:

(b) in any ventilating district in which inflammable gas has been found: and

(c) in any place in which, in the opinion of the Regional Inspector. inflammable gas is likely to be present in such quantities as to render the use of naked lights dangerous : Provided that if safety lamps are not immediately available in the case of any mine to which Cls. (b) and (c) apply, the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, grant a temporary exemption from the operation thereof until such time as safety lamps can be obtained : Provided further that the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein. exempt any mine or part thereof from the operation of this regulation on the ground that on account of its special character of the mine or part, the use of safety lamps is not necessary therein.

143. Contrabands :-

In every mine or part to which regulation 142 applies, the following provisions shall have effect, namely :

(1) No person shall have in his possession below ground any cigar, cigarette, biri or other smoking apparatus, or any match or other apparatus of any kind capable of producing a light, flame or spark : Provided that nothing in this

sub-regulation shall be deemed to prohibit the use below ground of any apparatus for the purpose of shot-firing or of re-lighting safety lamps, of a type approved by the Chief Inspector.

(2) For the purpose of ascertaining whether any person proceeding below ground has in his possession any article as aforesaid, a competent person other than the banksman, if any, shall be appointed to search every such person immediately before he enters the mine. The competent person shall be on duty throughout the shift, and no duties other than those under this regulation and regulation 149(2) shall be entrusted to him.

(3) The competent person so appointed shall make a thorough search for the articles aforesaid, and in particular shall-

(a) search or turn out all pockets:

(b) pass his hand over all clothings: and

(c) examine any article in the possession of the person searched. Such search shall be made every time a person proceeds below ground notwithstanding that he has been so searched previously also.

(4) If the competent person suspects that the person searched is concealing any article as aforesaid, he shall detain him, and as soon as possible refer the matter to the manager or assistant manager or under ground manager. No such person shall be allowed to enter the mine until the manager or other superior official is satisfied that the person has no such article in his possession.

(5) Any person who refuses to allow himself to be so searched or, who on being searched is found to have in his possession any of the articles aforesaid shall be guilty of an offence against this regulation.

144. Determination of environmental conditions :-

In every mine having workings below ground extending to a depth of more than 50 metres from the surface, determinations shall, once at least in every 30 days be made of temperature, humidity and such other environmental conditions as the Regional Inspector may, by an order in writing, stipulate at the blind end of every drivage and at such other points as the Regional Inspector may specify.

145. Appointment of Ventilation Officer :-

In the case of any mine having extensive workings below ground, if the Chief Inspector by an order in writing so requires, the manager, shall be assisted by a Ventilation Officer, holding such qualification as the Chief Inspector may specify in the order, who shall be responsible for supervising the maintenance of the ventilation system of the mine in accordance with the provisions of these regulations.

CHAPTER 14

Lighting and Safety Lamps

146. General lighting :-

(1) Adequate general lighting arrangements shall be provided during working hours-

(a) on the surface where the natural light is insufficient: in every engine house, in the vicinity of every working shaft, at every open-cast working, at every shunting or marshalling yard. and at every place where persons have to work: and

(b) below ground-

(i) at every shaft landing and shaft bottom or siding which is in regular use:

(ii) in every travelling roadway normally used by 50 or more persons during any shift and in every working stope : Provided that the provisions of this clause shall be deemed to have been complied with where electric or carbide lamps or lights are provided to every work person:

(iii) at the top and bottom of every self-acting incline in regular use:

(iv) at every place on a haulage roadway, at which tubs are regularly coupled or uncoupled or attached to or detached from a haulage rope:

(v) at every place at which tubs are regularly filled mechanically;

(vi) at every room and place containing any engine, motor or other apparatus in regular use: and

(vii) at every first-aid station below ground : Provided that in a mine or part where regulation 142 applies. the lighting fixtures shall comply with the provisions of the Electricity Rules, 1956 .

(2) The lighting provided in a mine shall, as far as possible, be so arranged as to prevent glare or eye-strain.

(3) Where electric energy is available at the mine, the lighting arrangement made under sub-regulation (1) shall, unless otherwise permitted by the Chief Inspector by an order in writing and subject to such conditions as he may specify, be by electrical means.

(4) Where electric lighting is used. an additional light or lamp having no connexion with electric supply shall be kept continuously burning-

(i) below ground, in every shaft bottom or landing in regular use and in every engine room: and

(ii) on the surface, after dark. at the top of every working shaft and in every engine room.

(5) Every electrical lamp-fitting shall be so constructed and fitted as to protect it from accidental damage; and adequate precautions shall be taken to prevent lamps being damaged from shot-firing.

147. Every person to carry a light :-

(1) The owner, agent or manager shall provide every person employed below ground with a light or lamp adequate to enable him to perform his duties in a proper and thorough manner: and no such person shall proceed or remain below ground without such light or lamp.

148. Standards of lighting :-

(1) If any doubt arises as to whether any lamp or light is of adequate lighting performance or not, it shall be referred to the Chief Inspector for decision.

(2) The Chief-Inspector may, from time to time, by notification in the Official Gazette, specify-

(a) the type of lamp to be provided to specified categories of persons employed in a mine; or

(b) the standard of lighting to be provided in specified area or places in a mine.

149. Maintenance and examination of safety lamps :-

In every mine or part thereof in which the use of safety lamps is for the time being required by or in pursuance of the regulations, the following provisions shall have effect, namely :

(1) A competent person appointed for the purpose shall clean, trim, examine and lock securely all such lamps before they are issued for use: and no such lamp shall be issued for use unless it is in safe working order and securely locked.

(2) A competent person appointed for the purpose shall examine every safety lamp at the surface immediately before it is taken below ground for use: and shall assure himself, as far as practicable from external observation, that such lamp is in safe working order and securely locked. The person so appointed shall not perform any other duties other than those prescribed under regulation 143(2).

(3) A competent person appointed for the purpose shall examine every safety lamp on its being returned after use. If on such examination, any lamp is found to be damaged or misused, he shall record the nature of the damage or misuse in a bound-paged book kept for the purpose. Every such entry shall be countersigned and dated by the manager.

(4) The manager, assistant manager, underground manager or a competent person appointed for the purpose shall, once at least in every seven days, examine thoroughly every safety lamp in use. and shall record the result of examination of every such lamp in a bound- paged book kept for the purpose.

(5) No person shall be appointed as a competent person under this regulation unless he holds a Gas-testing Certificate.

150. Use of safety lamps :-

(1) Every safety lamp shall be numbered: and so long as the lamp is in use, the number thereof shall be maintained in a legible condition.

(2) A competent person appointed for the purpose shall maintain a correct record of the lamps issued from and returned to the lamp-room: and in the record so maintained, the number of the lamp issued to any person shall be entered against his name.

(3) If any person returns to the lamp-room a lamp other than the one issued to him. he shall explain the cause and circumstances of the change.

(4) No unauthorized person shall either himself take, or give out, any safety lamp from the lamp-room.

(5) Every person who receives a lamp shall satisfy himself that it is complete and in good order; and should he find any defect therein, he shall immediately return it to the lamp-room.

(6) No person shall wilfully damage or improperly use. or unlock or open, or attempt to unlock or open any safety lamp,

(7) Should any person find that the .safely lamp in his possession has become defective, he shall at once carefully extinguish the flame, if any. and report the defect to his superior official.

151. Maintenance and repairs of safety lamps :-

(1) Every safety lamp shall be properly assembled and maintained in good order. If any lamp is found to be defective or damaged, it shall not be issued for use until the defect or damage has been remedied.

(2) If any wire or any gauze of a flame safety lamp are broken or burnt away the gauze shall not be reconditioned for further use.

(3) Damaged and defective gauzes, glasses and other parts of a safety lamp shall not be kept or stored in the safety lamp-room.

(4) No glass of a safety lamp, and no bulb of an electric safety lamp, shall be replaced except by a glass bulb of such types as the Chief Inspector may, from time to time, specify by notification in the Official Gazette: and no other part of a safety lamp (other than a wick or battery, as the case may be), shall be replaced except by a part manufactured by the manufacturers of the lamp to approved specifications. No repaired part shall be used in a safety lamp.

(5) In every flame safety lamp kept for the purpose of inspection or of testing for or detecting the presence of inflammable gas. no oil other than an oil of a type approved by the Chief Inspector shall be used.

152. Precautions to be taken in safety lamp-rooms :-

(1) No unauthorized person shall enter the safety lamp room.

(2) No person shall smoke in the safety lamp-room.

(3) Where petrol, benzol or any other highly volatile spirit is used in safety lamps, the following precautions shall be observed :

- (a) lamps shall be cleaned, refitted and refilled in a separate room,
- (b) only such quantity of volatile spirit as is required for one working day shall be kept in any such room,
- (c) internal relighters shall not be taken out of lamps and cleaned, repaired or refitted on the same table where lamps are cleaned, refitted or refilled: and
- (d) adequate number of suitable fire extinguishers shall be provided and kept ready for use in every such room.

CHAPTER 15

Explosives and Shot-firing

153. Type of explosives to be used in mines :-

No explosive shall be used in a mine except that provided by the owner, agent or manager. The explosives provided for use shall be of good quality and, as far as can be known, in good condition.

154. Storage of explosives :-

(1) No owner, agent or manager shall store or knowingly allow any other person to store, within the premises of a mine any explosives otherwise than in accordance with the provisions of rules made under the Explosives Act, 1884 .

(2) Explosives shall not be taken into or kept in any building except a magazine duly approved by the licensing authority under the Explosives Act, 1884 ; Provided that the Regional Inspector may, by an order in writing and subject to such conditions as he may specify therein, permit the use of any store or premises specially constructed at or near the entrance to a mine, for the temporary storage of explosives intended for use in the mine or of surplus explosives brought out of the mine at the end of a shift.

(3) Explosives shall not be stored below ground in a mine except with the approval in writing of the Chief Inspector and subject to such conditions as he may specify therein. Such storage shall be done only in a magazine or magazines duly licensed in accordance with the provisions of the rules made under the Explosives Act, 1884 .

(4) Every licence granted by the licensing authority under the Explosives Act, 1884 , for the storage of explosives, or a true copy thereof, shall be kept at the office of the mine.

155. Cartridges :-

(1) Unless otherwise permitted by the Chief Inspector by an order in writing and subject to such conditions as he may specify therein, no explosive, other than a fuse or a detonator, shall be issued for use in a mine. or taken into or used in any part of a mine, unless it is in the form of a cartridge. Cartridges

shall be used only in the form in which they are received.

(2) The preparation of cartridges from loose gunpowder, the drying of gunpowder and the reconstruction of damp cartridges shall be carried out by a competent person and only in a place approved by the licensing authority and in accordance with the rules made under the Explosives Act, 1884 .

156. Magazines, stores and premises to store explosives :-

(1) Every magazine or store or premises, where explosives are stored, shall be in charge of a competent person who shall be responsible for the proper receipt, storage and Issue of explosives.

(2) Explosives shall not be issued from the magazine unless they are required for immediate use. If any explosives are returned to the magazine or store or premises, they shall be re-issued before fresh stock is used.

(3) Explosives shall be issued only to competent persons upon written requisition signed by the blaster or by an official authorized for the purpose and only against their signature or thumb-impression. Such requisition shall be preserved by the person in charge of the magazine or store or premises.

(4) The person in charge of the magazine or store or premises shall maintain. in a bound-paged book kept for the purpose, a clear and accurate record of explosives issued to each competent person and a similar record of explosives returned to the magazine or store or premises.

157. Cases and containers for carrying explosives :-

(1) No explosives shall be issued from the magazine or taken into any mine except in a case or container of substantial construction and securely locked. Cases or containers made of iron or steel shall be heavily galvanized; and no case or container provided for carrying detonators shall be constructed of metal or other conductive material.

(2) No detonator shall be kept in a case or container which contains other explosives, materials or tools: and two or more types of detonators shall not be kept in the same case or container : Provided that nothing in this sub-regulation shall be deemed to restrict the conveyance of primer cartridges fitted with detonators in the same case or container for use in a wet working or in a sinking shaft or winze.

(3) No detonator shall be taken out from a case or container unless it is required for Immediate use.

(4) No case or container shall contain more than five kilograms of explosives: and no person shall have in his possession at one time in any place more than one such case or container : Provided that nothing In this sub-regulation ahall prohibit the conveyance of a larger quantity of explosives in bulk for supplying an underground magazine: Provided further that the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, permit the carrying of a larger quantity of explosives in a

single case or container, or the use. at one time in one place, of more than one such case or container.

(5) Every case or container shall be numbered: and as far as practicable the same case or container shall be issued to the same blaster or competent person, as the case may be, every day.

(6) The key of every case or container shall be retained by the blaster in his own possession throughout his shift.

158. Transport of explosives :-

(1) While explosives in bulk are lowered or raised in a shaft or winze, a distinguishing mark shall be attached to the cage, skip or bucket containing the explosives: or the person in charge of explosives shall travel in the same cage, skip or bucket.

(2) Every cage, skip or bucket containing explosives shall be gently lowered or raised; and it shall be the duty of the banksman or bellman, as the case may be, to adequately warn the winding engineman before the cage, skip or bucket is set in motion.

(3) Where explosives are being carried on a ladder, every case or container shall be securely fastened to the person carrying it.

(4) No person other than a blaster shall carry any priming cartridge into a shaft which is in the course of being sunk. No such cartridge shall be so carried except in a thick felt bag or other container sufficient to protect it from shock.

159. Reserve stations :-

No case or container containing explosives shall be left or kept below ground except in a place appointed by the manager or assistant manager or underground manager for the purpose and so situated that it is not frequented by work persons. Every such place shall be

160. Blasters :-

(1) The preparation of charges and the charging and stemming of holes shall be carried out by or under the personal supervision of a competent person, in these regulations referred to as a "blaster." The blaster shall fire the shots himself.

(2) No person shall be appointed to be a blaster unless he is the holder of a Manager's, Foreman's, Mate's or Blaster's Certificate.

(3) If 30 or more persons are employed below ground at any one time in any mine or district under the charge of a competent person referred to in regulations 116, such person shall not perform the duties of a blaster.

(4) No person whose wages depend on the amount of minerals, rock or debris obtained by firing shots, shall be appointed to perform the duties of a blaster.

(5) The manager shall fix, from time to time, the maximum number of shots that a blaster may fire in any one shift: and such number shall not, unless the Regional Inspector by an order in writing and subject to such conditions as he may specify therein otherwise permits, exceed 80, in case they are fired electrically or by means of an igniter cord, and 50 in other cases: and shall be based upon-

(i) the time normally required to prepare and fire a shot in accordance with the provisions of these regulations:

(ii) the time required for the blaster to move between places where shots are fired:

(iii) the assistance, if any, available to him in the performance of his said duties: and

(iv) any other duties assigned to him, whether statutory or otherwise : Provided that where the Regional Inspector may, by an order in writing and subject to such conditions as he may specify, permit the manager to fix the maximum number of shots to be fired by a blaster differently from the limits specified in this sub-regulation.

(6) The number of detonators issued to, and in the possession of, a blaster during his shift shall not exceed the maximum number of shots that he is permitted to fire under sub-regulation (5).

161. Shot-firing tools :-

(1) Every blaster on duty shall be provided with-

(a) a suitable electric lamp or torch:

(b) a tool, made entirely of wood, suitable for charging and stemming shot-holes:

(c) a scraper made of brass or wood suitable for cleaning out shot-holes:

(d) where fuses are used, a knife for cutting off fuses and unless machine-capped fuses are provided, also a pair of suitable crimpers for crimping detonators: and

(e) where detonators are used, a picker made of wood or of a non-ferrous metal for priming cartridges.

(2) No tool or appliance other than that provided as above shall be used by a blaster.

162. Drilling, charging, stemming and firing of shot-holes :-

(1) No drill shall be used for boring a shot-hole unless it allows a clearance of at least 0.3 centimetre over the diameter of the cartridge of explosive, which it is intended to use.

(2) No shot-hole shall be charged before it is thoroughly cleaned.

(3) Before any shot-hole is charged, the direction of the hole shall, where practicable, be distinctly marked on the roof or other convenient place.

(4) No detonator shall be inserted into a priming cartridge until immediately before it is to be used; so however that in case of wet workings, priming cartridges may be prepared at the nearest convenient dry place, and such primed cartridges shall be carried to the working place in a securely closed case or container. Detonators once inserted into a priming cartridge, shall not be taken out.

(5) Unless otherwise permitted by the Chief Inspector by an order in writing and subject to such conditions as he may specify- therein, the charge in any shot- hole shall consist of one or more complete cartridges of the same diameter and the same type of explosive.

(6) The blaster shall, to the best of his judgment, ensure that no charge in a shot-hole is over-charged or under-charged, having regard to the task to be performed.

(7) No shot-hole shall be fired by a fuse less than 1.2 metres in length.

(8) Every shot-hole shall be stemmed with sufficient and suitable non-inflammable stemming so as to prevent the shot from blowing out. Only sand loosely filled in, or soft clay lightly pressed home or a compact but not hard mixture of sand and clay. or water, shall be used at stemming.

(9) In charging or stemming a shot-hole, no metallic tool, scraper or rod shall be used: and no explosive shall be forcibly pressed into a hole of insufficient size.

(10) No shot shall be fired except in a properly drilled, charged and stemmed shot-hole.

(11) Blasting gelatine or other high explosives shall not be lighted in order to set fire to fuses: but specially prepared "kai-pieces" of such explosives may be so used. Such "kai-pieces" shall be prepared only in the magazine, and a correct record of the issue, use and return of such "kai-pieces" shall be maintained in the books kept under regulations 156(4) and regulation 169(b).

(12) All surplus explosives shall be removed from the vicinity of a shot-hole before a light is brought near it for the purpose of lighting the fuse.

(13) As far as practicable, a shot shall be fired by the same blaster who charged it.

(14) In any mine in which explosives other than gunpowder are used, every shot shall, if so required by the Regional Inspector, be fired electrically.

(15) Not more than 10 holes shall be fired in one round unless they are fired electrically or by means of an igniter cord.

(16) No shot-hole shall be charged except those which are to be fired in that round; and all shot-holes which have been charged shall be fired in one

round.

(17) Where a large number of shots has to be fired, shot-firing shall, as far as practicable, be carried out between shifts.

(18) No person shall remove any stemming, otherwise than by means of water or an approved device, or pull out any detonator lead, or remove any explosive, from any charged shot-holes.

163. Electric shot-firing :-

Where shots are fired electrically, the following provisions shall have effect, namely :

(1)

(a) No shot shall be fired except by means of a suitable shot-firing apparatus; and the number of shots fired at any one time by the apparatus shall not exceed the number for which it is designed.

(b) Every electrical shot-firing apparatus shall be so constructed and used that-

(i) it can only be operated by a removable handle or plug. This handle or plug shall not be placed in position until a shot is about to be fired and shall be removed as soon as a shot has been fired: and

(ii) the firing circuit is made and broken either automatically or by means of a push-button switch.

(c)

(i) No apparatus shall be used which is defective: and every apparatus shall, once at least in every three months, be cleaned and thoroughly overhauled by a competent person.

(ii) If the apparatus fails to fire all the shots in a properly connected circuit, the blaster shall return the apparatus to the manager, or assistant manager or underground manager as soon as possible: and It shall not be used again unless it has been tested on the surface and found to be in safe working order.

(iii) The result of every overhaul, test or repair as aforesaid shall be recorded in a bound-paged book kept for the purpose, and shall be signed and dated by the person making the overhaul, test or repair.

(2) The current from a signalling, lighting or power circuit shall be used for firing shots.

(3) The blaster shall-

(a) retain the key of the firing apparatus in his possession throughout his shift:

(b) use a well-insulated cable of sufficient length to permit him to take

proper shelter, and in no case shall this cable be less than 20 metres in length:

(c) before coupling the cable to the firing apparatus, couple up the cable himself to the detonator leads:

(d) take care to prevent the cable from coming into contact with any power or lighting cable or other electrical apparatus;

(e) take adequate precautions to protect electrical conductors and apparatus from injury:

(f) himself couple the cable to the firing apparatus: and before doing so, see that all persons in the vicinity have taken proper shelter as provided under regulation 164; and

(g) after firing the shots and before entering the place of firing, disconnect the cable from the firing apparatus.

(4) When more than one shot are to be fired at the same time-

(a) care shall be taken that all connexions are properly made;

(b) all shots fired below ground shall be connected in series:

(c) the circuit shall be tested, either for electrical resistance or for continuity, before connecting it to the firing apparatus. Such a test shall be made with an apparatus specifically designed for the purpose and after the provisions of regulation 164 have been complied with: and

(d) the cable to the shot-firing apparatus shall be connected last.

164. Taking shelter, etc :-

(1) The blaster shall, before a shot is charged, stemmed or fired, see that all persons in the vicinity have taken proper shelter. He shall also take suitable steps to prevent any person approaching the shot and shall himself take adequate shelter : Provided that in an open-cast working, the blaster shall give sufficient warning, by an efficient system of signals or by other means approved by the manager, over the entire area of the danger zone, that is to say, unless otherwise permitted in writing by the Chief Inspector and subject to such conditions as he may specify therein, an area of ground falling within a radius of 300 metres from the place of firing.

(2) Where the workings, either above or below ground, offer insufficient protection against flying fragments or missiles, adequate shelters or other protection shall be provided.

(3) When two working places below ground have approached within three metres of each other, the blaster shall not fire any shot in any one of the said workings unless all persons have been withdrawn from the other working places and the same has been so fenced off as to prevent persons inadvertently coming in direct line of the shot.

(4) Where shots are to be fired in two or more adjoining stopes, the blasters shall so arrange to time the firing of shots that shots in only one of the slopes are fired at one time.

165. Use of permitted explosives :-

(1) No explosive other than a permitted explosive shall be used in any mine or part to which regulation 142 applies or where the Regional Inspector may, by an order in writing, require the use of such explosives.

(2) In any mine or part in which the use of permitted explosives is required under sub-regulation (1), no detonator shall be used, unless it is an electric detonator with a copper tube.

(3) No shot of a permitted explosives shall be fired except by means of a shot-firing apparatus of a type approved by the Chief Inspector from time to time by notification in the Official Gazette : Provided that where special conditions exist, the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, permit the use of any other shot-firing apparatus.

(4) In any mine to which regulation 142 applies the following provisions shall have effect, namely :

(a) Notwithstanding anything contained in the regulations, no shot shall be stemmed or fired by any person who does not hold either a Manager's or Foreman's Certificate, or a Mate's Certificate together with a Gas-testing Certificate.

(b) Where more shots than one are charged for firing, the shots shall be fired simultaneously. No delay-action detonator shall be used, except with the previous permission in writing of the Chief Inspector and subject to such conditions as he may specify therein.

(c) If in a ventilating district, presence of inflammable gas is detected in any place no shot-hole shall be charged, stemmed or fired in that place or in any other place situated on its return side till such place has been cleared of gas and declared safe.

(d) Immediately before charging a shot-hole or a round of shot-holes and again before firing the shots, the blaster shall carefully test for inflammable gas at all places within a radius of 20 metres of the place of firing.

166. Inspection after shot-firing :-

(1) After a shot has been fired, no person other than the blaster or any other competent person holding a manager's or foreman's certificate appointed for the purpose by the manager shall enter, or allow any other person to enter, the place until the area is free from dust, smoke or fumes. The blaster or other competent person shall, before any other person enters the place, make a careful examination and with his assistants, if any, make the place safe. No other person shall enter the place, and where guards have been posted, they

shall not be withdrawn until the examination has been made and the place has been declared safe in all respects. In the case of open-cast workings, after shots have been fired, an all-clear signal shall be given except in the case of a misfire.

(2) After shots have been fired, all persons engaged in cleaning mineral, rock or debris shall look for unexploded cartridges and detonators. If such a cartridge and detonator is found, it shall be removed and shall, as soon as possible, be handed over to a blaster or other official.

167. Mistires :-

(1) The number of shots which explode shall, unless shots are fired electrically, or by means of an ignite cord, be counted by the blaster and another competent person authorized for the purpose: and unless it is certain that all the shots have been exploded, no person shall re-enter or be permitted to re-enter the place until 30 minutes after the firing of shots : Provided that where shots are fired electrically, this interval may be reduced to not less than five minutes after the source of electricity has been disconnected from the cable.

(2) In the event of a misfire, the entrance or entrances to the working place shall be barricaded or fenced so as to prevent inadvertent access: and no work other than that of locating or relieving the misfires shall be done therein until the misfire has been located and relieved. In open-cast workings, it shall be sufficient to mark the place of the misfire with a red flag.

(3) In the event of a misfire, the tamping may be sludged out with compressed air or water under pressure, or removed by such other means as may be approved in writing by the Chief Inspector and subject to such conditions as he may specify therein. The hole shall thereafter be reprimed and fired.

(4) If the misfire contains a detonator, the leads or fuse thereof shall be attached by a string to the shot-firing cable or some distinctive marker.

(5) Except where the misfire is due to a faulty cable or a faulty connexion and the shot is fired as soon as practicable after the defect is remedied, or where a shot has been reprimed and fired under sub-regulation (3), another shot shall be fired in a relieving hole which shall be so placed and drilled in such a direction that at no point shall it be nearer than 30 centimetres from the misfired hole. The new hole shall be bored in the presence of a blaster, preferably the same person who fired the shot.

(6) After a relieving shot has been fired, a careful search for cartridges and detonators, If any, shall be made In the presence of the blaster, or other competent person holding a Manager's or Foreman's Certificate appointed for the purpose by the manager, amongst the material brought down by the shot : Provided that In the case of workings below ground if such cartridge or detonator is not recovered, the tubs into which the material is loaded shall be marked and further search made on the surface. As far as possible, the search

for the detonators and cartridges and the loading of any ore, stone or debris which may contain a detonator, shall be carried out without the aid of tools.

(7) If a misfired hole is not dislodged by a relieving shot, the procedure laid down in sub-regulations (5) and (6) shall be repeated. A misfired hole which cannot be dealt with in the manner so prescribed, shall be securely plugged with a wooden plug, and no person other than a blaster, a mining official or a person authorized for the purpose shall remove or attempt to remove any such plug.

(8) When a misfired shot is not found, or when a misfired shot is not relieved, the blaster shall, before leaving the mine, give information of the failure to such official as may relieve or take over charge from him. He shall also record. In a bound-paged book kept for the purpose, a report on every misfire, whether suspected, and whether relieved or not relieved. It shall be the responsibility of the relieving blaster or official also to sign the report and later to record in the said book the action taken for relieving the misfired shot-hole.

(9) The blaster of the next shift shall locate and re-blast the misfired hole, but if after a thorough examination of the place, where the misfire was reported to have occurred the blaster or other competent person holding a Manager's or Foreman's Certificate appointed for the purpose by the manager, is certified that no misfire had actually occurred, he may permit drilling in the place.

168. Precaution in case of sockets, etc :-

(1) Before the commencement of drilling in any working place, the competent person in charge of the place shall see that all loose rock is removed from the face and the area lying within a radius of two metres of the proposed shot hole is thoroughly cleaned or washed down with water and carefully examined for the presence of misfires or sockets : Provided that where special conditions exist, the Chief Inspector may, by an order in writing and subject to such conditions as he may specify therein, grant a relaxation from these provisions.

(2) If any socket is found, it shall be dealt with in the manner prescribed in regulation 167.

(3) No person shall bore out a hole that has once been charged, or attempt to withdraw a charge either before firing or after a misfire, or deepen or tamper with any empty hole or socket left after shot-firing.

169. Duties of blaster at the end of his shift :-

Immediately after the end of his shift, the blaster-

(a) shall return all unused explosives to the magazine or where a store or premises or underground magazine is provided under regulation 154, to such store or premises or magazine: and

(b) shall record, in a bound-paged book kept for the purpose, the quantity of

explosives taken, used and returned, the places where shots were fired and the number of shots fired by him, and misfires, if any. Every such entry shall be signed and dated by him.

170. General precautions regarding explosives :-

(1) No person, whilst handling explosives or engaged or assisting in the preparation of charges or in the charging of holes, shall smoke or carry or use a light other than an enclosed light, electric torch or lamp : Provided that nothing in this sub-regulation shall be deemed to prohibit the use of an open light for lighting fuses.

(2) No person shall take any light other than an enclosed light, electric torch or lamp into any explosive magazine or store or premises.

(3) No person shall have explosives in his possession except as provided for in these regulations, or secrete or keep explosives in a dwelling-house.

(4) Any person finding any explosive in or about a mine shall deposit the same in the magazine or store or premises. Every such occurrence shall be brought to the notice of the manager in writing.

CHAPTER 16

Machinery and Plant

171. Use of certain machinery below ground :-

(1) No internal combustion engine or steam boiler shall be used below ground in a mine except with the permission in writing of the Chief Inspector and subject to such conditions as he may specify therein.

(2) In every mine or part of a mine to which regulation 142 applies, only flame-proof electric apparatus and equipment shall be used below ground unless otherwise provided for under the Indian Electricity Rules, 1956.

172. General provisions about construction and maintenance of machinery :-

All parts and working gear, whether fixed or moveable, including the anchoring and fixing appliances of all machinery and apparatus used as or forming part of the equipment of a mine, and all foundations in or to which any such appliances are anchored or fixed shall be of good construction, suitable material, adequate strength and free from visible defect and shall be properly maintained.

173. Apparatus under pressure :-

(1) All apparatus, used as or forming part of the equipment of a mine. which contains or produces air, gas or steam at a pressure greater than atmospheric pressure shall be so constructed, installed and maintained as to obviate any risk of fire, bursting, explosion or collapse or the production of noxious gases.

(2) Every air receiver forming part of a compressing plant shall be fitted with

a safety valve and an air-gauge which shows pressure in excess of the atmospheric pressure.

(3) Before an air-receiver is cased in or put in commission, the engineer or other competent person shall subject it to a hydraulic test at a pressure at least one-and-a-half times the maximum permissible working pressure. A similar test shall be made after every renewal or repair and in any case at intervals of not more than three years. The result of every such test shall be recorded in a bound- paged book kept for the purpose and shall be signed and dated by the person carrying out the test.

(4) The supply of air for air-compressors shall be drawn from a source free from dust and fumes.

174. Precautions regarding moving parts of machinery :-

(1) Every winch or windlass shall be provided and used with a stopper, pawl or other reliable holder.

(2) Every fly-wheel and every other dangerous exposed part of any machinery used as, or forming part of, the equipment of a mine shall be adequately fenced by suitable guards of substantial construction to prevent danger: and such guards shall be kept in position while the parts of the machinery are in motion or in use but they may be removed for carrying out any examination, adjustment or repairs if adequate precautions are taken.

(3) No person shall, or shall be allowed to repair, adjust, clean or lubricate machinery in motion where there is risk of injury.

(4) No person shall, or shall be allowed to shift or adjust a driving belt or rope while the machinery is in motion unless a proper mechanical appliance is provided and used for the purpose.

(5) No person In close proximity to moving machinery shall wear, or be permitted to wear, loose outer clothing.

(6) No unauthorized person shall enter any engine room or in any way interfere with the engine.

175. Engine rooms and their exists :-

Every engine, motor, and transformer room, on the surface and every room in which highly inflammable materials are stored on the surface shall be kept clean, and be provided with at least two exits. Every such exit shall be properly maintained and kept free from obstruction.

176. Working and examination of machinery :-

(1) No machinery shall be operated otherwise than by or under the constant supervision of a competent person.

(2) In every mine to which regulation 142 applies, no person shall be appointed to supervise or operate any electrical machinery, apparatus or appliance other than a telephone or signalling device or an electric lamp or

light, unless he holds a Gas-testing Certificate.

(3) Every person in charge of any machinery, apparatus or appliance shall, before commencing work, see that it is in proper working order, and if he observes any defect therein, he shall immediately report the fact to the manager, engineer or other competent person.

(4) Every person in charge of an air-receiver shall see that no extra weight is added to the safety valves and that the permissible pressure of air is not exceeded.

(5) A competent person or persons appointed for the purpose shall, once at least in every seven days, make a thorough inspection of all machinery and plant in use, and shall record the result thereof in a bound-paged book kept for the purpose.

CHAPTER 17

Miscellaneous

177. Fences :-

(1) Every tank or reservoir or other dangerous place in or about a mine, which has been formed as a result of, or is used in connexion with, mining operations, shall be kept securely fenced.

(2) Every fence erected on the surface shall, once at least in every seven days, be examined by a competent person. A report of every such inspection shall be recorded in a bound-paged book kept for the purpose and shall be signed and dated by the person who made the examination.

(3) Any fence, gate or barricade may be temporarily removed for the purpose of repairs or other operations, if adequate precautions are taken.

(4) If any doubt arises as to whether any fence, guard, barrier or gate provided under these regulations is adequate, proper or secure or as to whether the precautions taken under sub-regulation (3) are adequate, it shall be referred to the Chief Inspector for decision.

178. Notices :-

Where at any place smoking or unauthorized entry is prohibited notice to that effect shall be posted at conspicuous places at every entrance to the place.

179. Storage below ground of calcium carbide :-

Calcium carbide shall not be taken or kept below ground until about to be used, except in a secure metal case or container containing not more than half a kilogram in weight thereof. No person shall have in the mine at any one time more than one such case or container.

180. Danger from poisonous substances :-

(1) At every mineral dressing or separating plant where cyanide or other poisonous substance is used, there shall be kept a sufficient supply of a satisfactory and efficient antidote for poisoning.

(2) Water containing poisonous or injurious matter in suspension or solution must be effectively fenced off to prevent inadvertent access to it: and notice-board shall be put up at suitable places to warn persons from making use of such water.

(3) In no case shall water containing any poisonous matter in suspension or solution in a dangerous concentration be permitted to escape.

181. General safety :-

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

182. Use of protective equipment :-

Where it appears to the Regional Inspector or the Chief Inspector that any person or class of persons is exposed to undue hazard by reason of the nature of his employment, he may, by a general or special order, require the provision and use of gloves, boots, hard hats, goggles or other protective equipments.

183. Information about sickness :-

Every official or competent person shall, in case of sickness or of absence, give early and sufficient notice thereof to his superior official or the underground manager, or the assistant manager or the manager as the case may be so that a substitute may be arranged.

184. Manpower distribution plan :-

During the first week of every month, a survey shall be made of the number of persons normally employed in every district and other places below ground in the mine; and a sketch plan showing the results of such a man power survey, and signed and dated by the manager, shall be kept in the office of the mine and a copy thereof shall be kept with the attendance clerk.

185. Mining mates and mine foremen :-

(1) No person shall be appointed as a competent person under regulations 37(1), Section 72, Section 101, Regulation 120(2), Regulations 123(4), Regulations 135(5), Regulations 136(3) and Regulations 140(2), unless he is the holder of either a Foreman's or a Manager's Certificate : Provided that in the case of a mine having workings below ground, the certificate aforesaid shall be one which is not restricted to mines having open- cast workings only.

(2) No person shall be appointed as a competent person under regulations 116, Regulations 117, Regulations 125, Regulations 128(2)(c), Regulations 140(1) and Regulation 141 unless he is the holder of either a Mate's or a Foreman's or a Manager's Certificate : . Provided that-

(a) in the case of a mine having workings below ground, the certificate aforesaid shall be one which is not restricted to mines having open- cast workings only: and

(b) in the case of a mine to which regulation 142 applies, every person holding a Mate's or Foreman's Certificate shall also hold a Gas-testing Certificate.

186. Delayed application of certain provisions :-

The provisions of regulations 32, Regulation 34, Regulation 35, Section 37 , Regulation 38, regulation 160(2), Regulation 176(2) and Regulation 185 shall not come into force in respect of any mine and the provisions of regulation 78(1) shall not come into force in respect of any mine other than a gold mine until such date or dates as the Central Government may notify in that behalf in the Official Gazette : Provided that still such date as aforesaid. if any doubt arises as to whether any person appointed as a manager, assistant manager, under ground manager, surveyor, mine foreman, mining mate, winding engineman or blaster is competent to perform the duties assigned to that post, if shall be referred to the Chief Inspector for decision.

187. Officials to be literate :-

After the coming into force of these regulations, no person shall be appointed as an official of a mine unless he is literate and is conversant with the language of the district in which the mine is situated or with the language understood by a majority of the persons employed in the mine : Provided that this regulation shall not apply to any official employed In any mine on the date of coming into force of these regulations : Provided further that so much of this regulation as requires a person to be conversant with the language of the district or of the majority of persons shall not apply to assistant managers, underground managers, engineers and surveyors.

188. Writing of reports :-

If any person required to make any report is unable to write, he shall be present when his report is written for him, and shall have it read over to him, and shall then attach his thumb-mark to it or sign it. The person writing the report shall certify that it has been read over to the person for whom it was written, and shall sign the certificate and date his signature.

189. Payment of fees :-

Any fees payable under these regulations shall be paid directly into the Treasury or a branch of the State Bank of India, or by means of a Crossed Indian Postal Order and the receipt of the Treasury or Bank or Postal Order shall be sent to the Chief Inspector along with the application to which the fee relates.

190. Place of accident :-

(1) Whenever an accident occurs in or about a mine causing loss of life or serious bodily injury to any person, the place of accident shall not be disturbed or altered before the arrival or without the consent of the Section 23 of the Act unless such disturbance or alteration Is necessary to prevent any further accident, to remove bodies of the deceased, or to rescue any person from danger, or unless discontinuance of work at the place of accident would seriously impede the working of the mine : Provided that the work may

be resumed at the place of accident In case the Chief Inspector or the Inspector fail to inspect the place of accident within seventy-two hours.

(2) Before the place of accident involving a fatal or serious accident is disturbed or altered due to any reason whatsoever, a sketch of the site illustrating the accident and all relevant details shall be prepared (in duplicate) and such sketch shall be duly signed by the manager or assistant manager, safety officer, surveyor and the workmen's inspector or, where there is no workmen's inspector by a work person nominated by the workers in this behalf , Provided that, if the place is disturbed or altered to prevent further accident or rescue persons from danger before the sketch could be prepared, the same shall be prepared immediately thereafter giving all relevant details as existed before the place was disturbed or altered.

(3) One of the authenticated sketches shall be delivered or sent to the concerned Inspector of Mines.

190A. Emergency plan :-

(1) The manager of every mine having workings below ground shall prepare a general plan of action for use In time of emergency. The plan shall outline the duties and responsibilities of each mine official and men including the telephone operators, so that each person shall know his duties in case fire, explosion or other emergency occurs. All officials and key men shall be thoroughly instructed in their duties so as to avoid contradictory orders and confusion at the time when prompt and efficient action is needed. The emergency plan shall also provide for mock rehearsals at regular intervals.

(2) The manager shall submit a copy of the aforesaid emergency plan prepared by him to the Regional Inspector within 60 days of the coming into force of the Metalliferous Mines (Amendment) Regulations, 1985, or in the case of a mine which is opened or re-opened thereafter, within 30 days of such opening or re-opening. The Regional Inspector may. by an order in writing approve of such action plan, either in the Form submitted to him or with such additions and alterations as he may think fit, and the action plan so approved shall be enforced at the mine.

(3) On receiving information of any emergency the manager and in his absence the principal official present at the surface, shall immediately put emergency action plan in operation.]

191. Taking sample from mines :-

Where for official purposes, an Inspector considers it necessary to take samples of any mineral, rope or other material, the owner, agent or manager shall make over to him such samples in such quantities as he may require.

192. 192 :-

* * *].

193. Chief Inspector, etc. to exercise powers of the Regional Inspector :-

Any power granted under these regulations to the Regional Inspector may be exercised by the Chief Inspector or an Additional Chief Inspector or a Deputy Chief Inspector or any other Inspector authorized in writing in this behalf by the Chief Inspector.

194. Appeals to the Chief Inspector :-

Against an order made by the Regional Inspector under any of these regulations, an appeal shall lie within 15 days of the receipt of the order by the appellant, to the Chief Inspector who may confirm, modify or cancel the order.

195. Appeals to the Committee :-

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(1) [Against any original order made by the Chief Inspector under any of these regulations or against any order passed regulation 194 by the Chief Inspector or an appeal against Regional Inspector's Order] an appeal shall lie, within 20 days of the receipt of the order by the appellant to the ¹[Committee constituted under Section 12 of the Act.]

²[(i) * *]

³ [(ii) * *]

(2) Every order of the Chief Inspector, against which an appeal is preferred under sub-regulation (1) shall be complied with pending the receipt at the mine of the decision of the Committee] : Provided that [the Committee] may, on application by the applicant, suspend the operation of the order appealed against pending the disposal of the appeal.

1. State of Orissa v. Ishwar Das. A.I.R. 1960 Orissa 180 at pp. 181-83.

2. Ram Ratan v. State, A.I.R. 1959 Punj. 67 at p. 70: In re Lingareddi Venkatareddy. A.I.R. 1956 A.P.24 : 1956 Cr. L.J. 29; Shiv Bahadur Singh v. State or v.P., A.i.R. 1953 S.C. 394 : 1953 Cr. L.J. 1480; State v. Kunja Behari Chandra. A.I.R. 1954 Pat. 371 : I.L.R.33 Pat. 507 (F.B.); see also Bhattar v. State. A.I.R. 1957 Cal. 483 : 1957 Cr. L.J. 834 relied on.

* Only such columns to be filled in respect of which notice is given.

196. Repeal and saving :-

The Metalliferous Mines Regulations, 1926, and the Mysore Gold Mines Regulations, 1953, are hereby repealed : Provided that all acts done or orders issued under any of the said regulations shall, so far as they are not inconsistent with these regulations be deemed to have been done or issued under the corresponding provisions of these regulations.

SCHEDULE FIRST

SCHEDULE