



Republic of Namibia  
Annotated Statutes

**REGULATIONS**

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REGULATIONS MADE IN TERMS OF

**Mines, Works and Minerals Ordinance 20 of 1968**  
section 95

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**Regulations made under the provisions of  
the Mines, Works and Minerals Ordinance,  
1968 (Ordinance 20 of 1968)**

Government Notice 143 of 1968

[\(OG 2927\)](#)

came into force on date of publication: 1 October 1968

**as amended by**

**Government Notice 196 of 1968** [\(OG 2950\)](#)

came into force on date of publication: 17 December 1968

**RSA Proclamation R.89 of 1969** [\(RSA GG 2354, republished in OG 3002\)](#)

came into force on 1 April 1969 (Proc. R.89/1969);

Proc. R.89/1969 contains a saving clause which states: "Anything done under the regulations prior to the commencement of this Schedule shall be deemed to have been done by the authorised person who as from such commencement is empowered to do such thing."

**RSA Government Notice R.817 of 1972** [\(RSA GG 3506\)](#)

came into force on date of publication: 19 May 1972

**RSA Government Notice 1730 of 1972** [\(RSA GG 3662\)](#)

came into force on date of publication: 29 September 1972

**Government Notice AG 179 of 1980** [\(OG 4325\)](#)

came into force on date of publication: 21 November 1980

The only portions of the Ordinance that remain in force concern the appointment, powers, duties and functions of the Chief Inspector of Mines and inspectors of mines.

The Minerals (Prospecting and Mining) Act 33 of 1992 [\(GG 564\)](#) repeals the Ordinance *except* in so far as it relates to the appointment and powers, duties and functions of the Chief Inspector of Mines and an inspector of mines, and the safety and health of persons employed in or in connection with mines and works.

The Labour Act 6 of 1992 [\(GG 388\)](#), which has since been replaced by the Labour Act 11 of 2007, repealed section 93 and the whole of the Ordinance "in so far as it relates to the health and safety of workers employed in or in connection with mining and prospecting operations" with effect from

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**31 July 1997. The Labour Act 6 of 1992, with the exception of Part XI on health and safety and section 116 insofar as it relates to Part XI, was brought into force on 1 November 1992 by GN 134/1992 (GG 491). The remaining portions of the Act were brought into force on 31 July 1997 by GN 155/1997 (GG 1614).**

**This means that only some portions of these regulations have continuing effect. The regulations are presented here in full to provide context for those portions that have current relevance.**

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**EXPLANATORY**

**PART I: CLAIMS AND MINING AREAS**  
(Regulations 1 to 24)

**PART II: MINES AND WORKS**  
(Regulations 25 to 160)

**PART III: MACHINERY**  
(Regulations 161 to 234)

**PART IV: ACCIDENTS**  
(Regulations 235 to 250)

**PART V: BLASTING CERTIFICATES**  
(Regulations 251 to 255)

**PART VI: HOURS OF WORK**  
(Regulations 256 to 258)

**SCHEDULE 1: Forms**

**SCHEDULE 2: Regulations repealed**

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**[RSA Proclamation R.89/1969 directs the substitution of the term “Chief Inspector” for “Director” or “Director of Mines” throughout the regulations, except in regulation 11 and in regulation 200 (1) and (4).]**

**PART I**

**CLAIMS AND MINING AREAS**

*Pegging, beaconing and registration of claims.*

**1.** (1) Any word or phrase to which a meaning has been assigned in the Mines, Works and Minerals Ordinance, 1968 (Ordinance 20 of 1968) - hereinafter called the Ordinance - shall, unless the context otherwise indicates, have the same meaning in these regulations.

(2) (a) A prospecting licence under sections 20, 21 and 22 of the ordinance shall be in Form “A” prescribed in Schedule 1 annexed hereto.

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- (b) The notification of pegging of claims under section 26 of the ordinance shall be in Form "B" prescribed in Schedule 1 annexed hereto.
- (c) A permit under sections 28 and 43 of the ordinance shall be in Form "C" prescribed in Schedule 1 annexed hereto.
- (d) The certificate under sections 29(3) and 35 of the ordinance shall be in Form "D" prescribed in Schedule 1 annexed hereto.
- (e) The transfer agreement under section 35(1) of the ordinance shall be in Form "E" prescribed in Schedule I annexed hereto.

*Pegging of claims.*

2. (1) Every claim shall be pegged by, and shall be deemed to have been pegged by the fixing at each middle-point of the long sides of the claim of an upright peg projecting not less than one metre (39 inches) above the surface of the ground.

(2) The pegs shall not be placed further apart than 300 metres (328 yards) measured horizontally, and shall determine the width and size of the claim and once placed shall not be moved without the authority of the Mining Commissioner.

(3) The pegging of claims in the manner described in regulation 2(1) shall be valid for seven days inclusive of the day of pegging and pegs and beacons defining the corner and line points shall be placed and erected in accordance with the provisions of regulation 5 within the said period of seven days.

(4) The prospector shall give ordinal numbers to claims pegged in his name, or transferred to his name, in consecutive order and he shall be responsible that no claim for which application for registration in his name is made bears the same ordinal number as a claim already registered in his name.

3. Any peg required to mark the boundary of a claim or block of claims shall be a metal rod with a diameter of not less than 2 centimetres ( $\frac{3}{4}$  inch) or a wooden pole with a diameter, of not less than 5 centimetres (2 inches) to which a metal plate or a strong wooden board to the satisfaction of the claim inspector measuring not less than 30 centimetres (12 inches) by 23 centimetres (9 inches) has been securely fastened to the upper end and which shall bear the information required by regulation 5. Such pegs shall project not less than one metre (39 inches) above the surface of the ground.

If metal fencing poles or droppers are used the above cross-sectional dimensions need not be complied with.

*Marking of corner and line beacons.*

4. (1) Before erecting the corner beacons required under Section 23(1) of the ordinance, the pegger shall determine the corner points of the claim or block of claims as follows:

- (a) In the case of a single regular rectangular claim, the pegger shall measure off on either side from each middle beacon, at right angles to the straight line joining the middle beacons, equal horizontal distances not exceeding 300 metres (328 yards). The points so fixed shall be the corner points.

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- (b) In the case of an irregularly shaped claim pegged in accordance with section 23(5) of the ordinance, the pegger shall fix the corner points by inspection and shall take all reasonable precautions that the area of such irregularly shaped claim does not exceed 18 hectares.
- (c) In the case of a block of claims in which the long sides of adjacent claims are coincident the pegger shall measure off on either side from each of the two furthest apart middle beacons in the block, at right angles to the straight line joining such beacons, equal horizontal distances not exceeding 300 metres (328 yards). The points so fixed shall be the corner points.

(2) If the pegs marking the corner points on any boundary line of a claim or block of claims are not visible from one another, such boundary line shall be demarcated by line pegs erected in such manner that on either side from any line peg at least one peg on the boundary line can be seen. In wooded country the claim inspector may require a line or path to be cut along the boundary of a claim or block of claims, if, in his opinion, this is necessary.

*Construction of claim beacons.*

5. (1) Every middle, corner and line point on any boundary of a claim or block of claims, and every middle point of the long side of a claim forming part of a block of claims, shall be marked by a beacon consisting of the following:

- (a) a peg;
- (b) a cairn;
- (c) a surrounding trench with direction arms, which shall conform to the requirements set out in subregulation (3).

(2) The pegs marking any corner or middle beacon or line point shall bear in legible block letters at least 2.5 centimetres (1 inch) high the following information: -

*In the case of corner beacons:*

- (a) the name of the prospector;
- (b) the number of his prospecting licence;
- (c) the words "CORNER BEACON";
- (d) the number of claims in the block with the ordinal number or numbers of the claim or claims constituting the block;
- (e) the date of the pegging.

*In the case of line beacons:*

- (a) the name of the prospector;
- (b) the number of his prospecting licence;
- (c) the words "LINE BEACON";

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- (d) the ordinal number of the claim;
- (e) the date of pegging.

*In the case of middle beacons:*

- (a) the name of the prospector;
- (b) the number of his prospecting licence;
- (c) the words "MIDDLE BEACON";
- (d) the ordinal number of the claim;
- (e) the date of pegging.

(3) Within seven days of the date of pegging of the middle points of a claim or block of claims a cairn of stones, not less than one metre (39 inches) in diameter at the base and sloping evenly upwards to within 30 centimetres (12 inches) of the bottom of the plate, shall be placed neatly around the pegs and, where the nature of the ground permits, a trench, 30 centimetres (12 inches) deep and 30 centimetres (12 inches) wide, shall be made around the cairn and trenches of similar dimensions shall be made not less than 2 metres (6 ½ feet) long outward from the aforementioned trench in the direction of the boundary lines meeting at the beacon. Where trenches cannot be made stones shall be placed to form directing lines of the same design.

In sandy areas where stones are not available such peg shall be sunk or driven vertically into the ground for at least 60 centimetres (2 feet) of its length, with its upper end projecting at least one metre (39 inches) above the surface of the ground. Round the peg, sand or gravel shall be heaped symmetrically in a cone with a diameter at its base of at least 2 metres (6½ feet) and extending upwards to an apex to within 30 centimetres (12 inches) of the bottom of the plate.

*Joint use of beacon.*

6. When an adjoining claim is pegged, use may be made of any part, other than the peg, of any existing claim beacon to mark the boundaries of the adjoining claim provided this is done without injury to any part of the beacon. If adjoining claims are held by different prospectors such prospectors shall be individually responsible for the proper upkeep of their pegs and jointly responsible for the upkeep of the other parts of the shared beacon.

*Defining of inaccessible beacon point.*

7. If a beacon defining a corner or middle point of a claim falls in an inaccessible place or place where it is inadvisable to place such a beacon such point shall be indicated on the ground by indicatory beacons erected on the straight boundary lines meeting at the point and as near as possible thereto as will be consistent with the safety of such indicatory beacons.

Such indicatory beacons shall conform to the specifications prescribed for corner and middle beacons in every respect except that the pegs shall bear in place of the words "CORNER BEACON" or "MIDDLE BEACON" the words "INDICATORY BEACON" and the distance in metres or feet from the peg of the judicatory beacon to the corner beacon or middle point to be indicated, shall be inscribed on the plate.

*Notification of pegging.*

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**8.** (1) Notification of the pegging of any claim shall be made on the prescribed form and shall be delivered to the Mining Commissioner as soon as possible after the claim beacons have been completed but in any event within 28 days of the date of pegging.

(2) Such notification shall be accompanied by the prescribed claim fees for a period of six months and by a sketch plan in quadruplicate which shall: -

- (a) be drawn in ink on strong or durable paper;
- (b) be drawn to scale (as far as possible);
- (c) show the direction of true or magnetic north pointing to the top edge of the paper;
- (d) show the relative position of every middle, corner and line beacon erected and the lengths of each boundary line of each claim;
- (e) show the ordinal number and the date of pegging of each claim;
- (f) show the position of all adjoining claims or mining areas with the names of the holders and the ordinal numbers appearing on the beacons of such claims or mining areas;
- (g) show the position of the claim or block of claims relative to the boundaries of the farm or farms and the farm houses on which the claims are situated with the approximate angle of direction and distance from at least one of the corner beacons of the claim to the nearest corner beacon of the farm;
- (h) show the position relative to the boundaries of the claim or block of claims of any building, water supply, road, railway, riverbed, fence, and trigonometrical beacon, mining area or claim beacon within the claim or within 500 metres (547 yards) from any point on any boundary of the claim;
- (i) show generally such other information as to enable the claim to be located accurately on the ground;
- (j) bear the following endorsement signed by the pegger:

“This sketch plan represents ..... (number) claims with ordinal Nos.  
 ..... pegged on ..... (date) under Prospecting Licence No.  
 ..... by me in the name of .....  
 (name of prospector) on the farm (s) .....  
 ..... No(s) .....  
 in the District(s) of .....  
 owned by .....  
 (Name(s) of owner(s) of land), of address(es) .....

I certify that the beacons defining the above claim(s), and as shown on the sketch, have been erected under my direct supervision and conform with the requirements of the mining law.

(sgd.).....

Pegger.

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(date) .....

(3) If any sketch plan is defective in that it does not comply with the requirements prescribed, the mining commissioner shall not register the claim or claims it purports to represent and shall post one of the copies of such sketch to the address from which it was dispatched to him. Unless the mining commissioner receives a new sketch plan in quadruplicate with the defects remedied within the period fixed by the mining commissioner in his discretion, the claims purporting to be defined by the defective sketch plan shall not be registered.

*Claims abandoned, cancelled or transferred.*

9. (1) Abandonment of claims shall be by notification in writing to the mining commissioner and the holder of the claims shall forward with such notification the relative certificate of registration or certificate of transfer for endorsement.

(2) When any claim is abandoned, cancelled or transferred the whole of such claim shall be abandoned, cancelled or transferred.

(3) When any claims are abandoned or cancelled the beacons of such claims shall be dealt with as follows:

- (a) Where a claim or the whole of a block of claims as beaconed off has been abandoned or cancelled the holder of such claim or block of claims shall within 30 days of the date of abandonment, or cancellation remove the beacons, completely so that there is no doubt that such claim or block of claims is no longer held and that the land is therefore again open for pegging.
- (b) Where only a certain number of the claims comprising a block of claims have been abandoned or cancelled the registered holder of such claim or block of claims shall within 30 days thereafter completely remove the beacons of such number of claims so that there is no doubt that such claims are no longer held and that the land is again open for pegging and he shall erect new corner and line beacons, to conform with the ordinance and regulations, as may be required to define the claims retained by him.
- (c) Paragraphs (a) and (b) above are subject to the proviso that where any beacon defining a claim that is abandoned or cancelled is a common beacon defining also a claim held by an adjoining holder or a claim that is not abandoned or cancelled the holder of the claim that is abandoned or cancelled shall remove only his peg from such beacon and the directing trenches that indicate only the boundaries of the claim abandoned or cancelled.

(4) When claims are transferred, the transfer shall be signed by agreement between transferor and transferee on the form prescribed. Such transfer shall not become effective until a transfer certificate has been issued by the mining commissioner.

The transferee shall submit the transfer agreement and the Certificate of Registration of the claims to be transferred to the mining commissioner and his application for the registration of the transfer shall be accompanied by copies in quadruplicate of the sketch plan, referred to in regulation 8(2), under which the claims about to be transferred were last registered. The said copies of the sketch plan shall show the new ordinal numbers of the claims to be given by the transferee.

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On registration of transfer the mining commissioner shall issue the transfer certificate and within thirty days of the date of issue of such certificate the transferee shall on every claim beacon of a claim transferred to him substitute his own peg for the peg of the transferor. Such pegs shall conform to the requirements of regulation 5(2) and, in addition to the date of pegging, shall bear the words

By transfer from ..... (transferor)  
 on ..... (date of transfer).

(5) Where only some of the claims in a block are transferred each registered holder of claims in such block shall within 30 days of the date of transfer re-erect his beacons so that his respective claims are defined.

(6) Any holder of a claim who fails to observe the requirements of this regulation in any particular, shall be guilty of an offence and liable upon conviction to a fine not exceeding fifty Rand or, in default of payment, to imprisonment for a period not exceeding three months.

*Official numbers of beacons and stations.*

**10.** (1) In every survey of a mining area official numbers in arabic numerals shall be assigned to the beacons and survey stations. Such numbers will be allotted by the Surveyor-General for every survey.

[The word "Arabic" is not capitalised in the *Official Gazette*.]

(2) The distinguishing numbers and names of beacons and stations of previous surveys must be retained.

(3) The names and numbers referred to in subregulations (1) and (2) must be used by the land surveyor throughout in the survey records and on the diagrams.

*Certain stations to be fixed by astronomical methods.*

**11.** If it is not practicable in the opinion of the Surveyor-General in consultation with the Director to connect the survey of a mining area, which is situate on unsurveyed state land, to the general triangulation and it is necessary to measure a base line for such survey, the land surveyor shall accurately determine by astronomical methods the latitude and longitude of any suitably situated station and the axes of the co-ordinate system used in the survey shall be based on an astronomical determination of azimuth.

**12.** Subject to existing prospecting or mining rights held by other persons every mining area shall be beaconed in a rectangular shape within the boundaries of the claim or claims to be converted into such mining area, and shall not include any land which was not originally included in the claim area to which the prospector was entitled at the time of registration of the claim or claims. For the purposes of this regulation a rectangular figure shall be a rectilinear figure bounded by any number of sides. No angle of such figure shall differ from 90° or multiples of 90° by more than half a degree.

[The word "rectilinear" is misspelt in the *Official Gazette*, as reproduced above.]

*Intersection of boundary of farm and mining area.*



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**13.** (1) When a boundary line of a farm intersects the mining area surveyed, any point of intersection of a boundary line of the mining area with the boundary line of the farm shall be marked on the ground with a beacon and its position determined in relation to the corner points of the mining area and the terminal points of the boundary line of the farm.

(2) Such intersection point shall be designated by a number in series with those of the beacons and survey stations of the mining area, as provided in regulation 10 and its co-ordinates shall be inscribed on the diagram of the mining area.

*Line Beacons.*

**14.** (1) The boundary lines of a mining area longer than 500 metre (547 yards) shall have intermediate line beacons and directory trenches or stones as prescribed. There shall be one line beacon to every 500 metres (547 yards) or thereabouts, or at a less distance if required by the claim inspector.

[The phrase “500 metre” should be “500 metres”, as in its second usage in subregulation (1).]

(2) Line beacons shall be fixed with plotting accuracy on the scale of the working plan or the diagram whichever scale is the greater.

*Mining area beacons.*

**15.** (1) Subsequent to the commencement of these regulations, beacons, including line beacons, defining the boundaries of a mining area shall be an iron peg not less than 60 centimetres (2 feet) in length and 2½ centimetres (1 inch) in diameter driven in vertically so that its top protrudes 15 centimetres (6 inches) above the surface of the ground.

(2) Over this iron peg an iron pipe not less than 60 centimetres (2 feet) long and 4 centimetres (1½ inches) diameter shall be carefully and vertically centred immediately above the iron peg.

(3) Around such pipe a concrete truncated pyramid not less than 60 centimetres (2 feet) high with a base of 60 centimetres by 60 centimetres (2 feet by 2 feet) and a top of 30 centimetres (12 inches) by 30 centimetres (12 inches) shall be cast symmetrically so that it projects 50 centimetres (18 inches) above the surface of the ground and directing lines shall be made as prescribed for claim beacons by regulation 5(3).

(4) Should the beacon be placed on solid rock, the centre mark shall be a hole 2.5 centimetres (1 inch) in diameter 5 centimetres (2 inches) deep into the rock.

(5) Against one side of such concrete pyramid metal plate, not less than 25 centimetres by 15 centimetres by 3 millimetres (9 inches by 6 inches x ⅛ inch) thick shall be firmly fixed by means of bolts through the four corners and on this plate the following information shall be recorded in die-cut letters not less than 9 millimetres (¾ inch) high: -

- (i) the words “Mining Area” or “Mining Areas” followed by the name of the mining area or areas, and
- (ii) the official number of the beacon as it will appear on the diagram, or in the case of a line beacon the words “Line Beacon”.

[The paragraphs are labelled here as in the *Official Gazette*.]

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(6) No departure from the prescribed type of beacon shall be allowed without the written permission of the mining commissioner.

(7) In re-surveying or subdividing a mining area all beacons shall be re-erected in accordance with the provisions of this regulation.

*Number and nature of diagrams required.*

**16.** (1) The diagram for the registration of a mining area shall be framed in quadruplicate. One copy shall be framed on tracing linen and the other three copies shall be good linen prints.

(2) Each copy of the diagram shall be signed separately by the land surveyor.

*Lettering.*

**17.** (1) When two or more figures are represented on one and the same diagram, after completing the lettering of the first figure, the lettering of the beacons of the remaining figure shall proceed round the next figure and so on for each remaining figure.

(2) Line beacons shall not be lettered except for the letters "LB".

(3) The official name or number of each beacon and station, assigned in terms of regulation 9 shall be written in the conventional manner opposite the letter representing such beacon in the tabulation of the numerical data on the diagram.

*Information on diagram.*

**18.** (1) The mining area surveyed shall be represented on the diagram by a rectilinear geometrical figure and the following information recorded thereon -

**[The word "rectilinear" is misspelt in the Official Gazette, as reproduced above.]**

- (a) a verbal definition of the figure or figures;
- (b) the name of the mining area or areas;
- (c) the number of each mining area (this number will be allocated by the Surveyor-General);
- (d) the names and numbers of the farms or subdivisions upon which each mining area is wholly or partially situated;
- (e) the registration division or divisions in which the farms are situated;
- (f) the name of the Territory;
- (g) in the case of a subdivision of a mining area a reference to the original diagram and deed of conversion or subsequent deed;
- (h) a description of all farm and mining area beacons;

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- (i) the registered numbers of all beacons;
- (j) the scale of the figure.

*Plot of figure.*

**19.** The figure or figures on a diagram shall be plotted to a natural scale provided that the size of any one figure shall not be less than 30 square centimetres.

*Data for diagrams.*

**20.** (1) The diagram of a mining area shall *inter alia* contain the following numerical data -

- (a) the area to four places of decimals of a hectare of each mining area and of each farm or portion of a farm affected by the mining area;
- (b) the scaled distances between adjacent line beacons and between a line beacon and an adjacent corner beacon; these distances must be written in appropriate positions outside the figure;
- (c) the value of the latitude and longitude of the station referred to in regulation 11.

[paragraph (c) amended by RSA GN R.817/1972]

(2) The numerical data except as provided in paragraph (1)(b) shall be tabulated and in this tabulation the corner points of the figure shall be referred to in a clockwise order.

*Composite diagrams.*

**21.** (1) The diagram may contain the figures of two or more mining areas for the purpose of registration of a deed of conversion provided -

- (i) the figures are plotted in their correct relative positions;
- (ii) the deeds of conversion are to be registered in the name of the same owner or owners; and
- (iii) each such area is described in any relevant deed in a separate paragraph and notwithstanding anything contained to the contrary in regulation 27(2) of the regulations framed under the provisions of the Deeds Registry Proclamation, 1939 (Proclamation 37 of 1939), each such area may be transferred or dealt with independently without the production of a further diagram thereof.

(2) It is not permissible to represent more than one portion of one mining area on one subdivisional diagram.

(3) When more than one mining area is represented on a diagram the name and number of each mining area so represented shall, in addition to being described in the verbal definition as prescribed by regulation 18, be written within its respective figure.

*Numbers of claims.*

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22. The ordinal and registered numbers of the claims included in the mining area surveyed shall be stated on the diagram but need not be repeated on the diagram of a subdivision.

*Certificate on working plan.*

23. The working plan of a land surveyor shall be signed under the following certificate -

I certify that the whole of this survey was performed by me or under my supervision, that beacons according to regulation have been erected and that the mining areas represented hereon fall wholly within the claims pointed out to me by

.....

.....

LAND SURVEYOR.

DATE: .....

*Fees of office: Surveyor-General.*

24. The fees of office to be charged by the Surveyor-General in respect of any act, matter or thing required or permitted to be done shall be in accordance with Government Notice 71 of 1962.

PART II

MINES AND WORKS

25. In these regulations, unless the context otherwise requires: -

*Interpretation of terms.*

“Approved authority” shall mean an authority approved for the purpose of these regulations by the Chief Inspector;

“Banksman” shall mean a person stationed at the shaft top, who shall be the holder of a certificate issued by the manager to supervise the loading and unloading of persons and material in the bucket, skip, cage or other means of conveyance and to give the necessary signals required from him in the carrying out of winding operations;

“Boiler” shall mean any apparatus, with all its fittings and appurtenances, adapted to convert any liquid continuously into steam or vapour of a higher pressure than that due to the atmosphere, and includes any super-heater; economizer and steam accumulator, with all their fittings and appurtenances, and where any such apparatus consists of two or more parts, each of which is capable of being adapted for use as a separate boiler by the mere closing of a valve, shall mean each of such parts with all its fittings and appurtenances;

“circuit” shall mean an electric circuit forming a system or branch of a system;

“competent engineer” shall mean a person appointed in writing by the manager to take general charge of all machinery on a mine or works or portion of a mine or portion of a works;

“competent shiftsman” shall mean a person who has served an apprenticeship in an appropriate trade or who has, had not less than five years’ experience in working with machinery, and who has had adequate experience of the safe working of the class of machinery of which he is in charge and which he is required to examine or in connection with which he is required to work;

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“conductor” shall mean an electrical conductor arranged to be electrically connected to a system;

“covered with insulating material” shall mean adequately covered with insulating material of such quality and thickness that there is no danger of contact between any outside object and the conductor so covered;

“dead” shall mean at or about zero potential, and disc connected from any live system;

“earthed” shall mean connected to the general mass of earth in such manner as will ensure at all times an immediate safe discharge of electrical energy;

“electrical apparatus” includes all apparatus, machines and fittings in which conductors are used, or of which they form a part;

“employee” shall mean any person employed by or working for any employer, and any other person whatsoever who in any manner assists in the carrying on or conducting of the business of an employer;

“employer” shall mean a person who in connection with a mine or works employs or provides work for or permits, anyone in any manner whatsoever to assist him in carrying on his business in or about a mine or works;

“engine” shall mean any appliance or combination of appliances by which power, other than man or animal power, can be applied to do mechanical work;

“explosives” shall have the meaning assigned to that term by the Explosives Ordinance (No. 31 of 1962);

“ganger” or “miner” shall mean the person in charge of workmen in or at a mine or works;

“gauge pressure” shall mean the pressure in excess of that due to the atmosphere;

“heating surface” shall mean the manufacturers designed heating surface of a boiler, or in the absence thereof, the area of all surfaces of a boiler to which heat is applied for the purpose of raising the temperature of water or steam;

“live” or “alive” shall mean electrically charged;

“low pressure” shall mean a pressure not normally exceeding 250 volts;

“manager” shall mean the person appointed in writing by the owner of a mine or works to be responsible for the control, management and direction of the mine or portion of the mine or of the works or portion of the works, and shall include the term “General Manager”;

“material” shall mean and include whatever may be conveyed by means of a winding plant except persons and minerals;

“metallic covering” shall mean iron or steel armouring, with or without a lead or other metallic sheath, as the conditions of the case may require, or an iron or steel pipe surrounding two or more conductors;

“miner” or “ganger” shall mean the person in charge of workmen in or at a mine or works;

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“misfired hole” shall mean a hole in which the explosive or any portion thereof has failed to explode;

“onsetter” shall mean the person authorised in writing by the manager to have charge of a cage, skip or other means of conveyance underground in which persons or material are being raised or lowered and to give the necessary signals required from such person in the carrying out of winding operations;

“pressure electrical” shall mean the difference of electrical potential between any two conductors, or between a conductor and earth;

“pressure vessel” shall mean a compressed air receiver, intercooler, autoclave, sterilizer, digester, steam jacketed vessel, or any other container used to hold a pressure higher than that of the atmosphere, but shall not include: -

- (a) boilers;
- (b) portable gas cylinders;
- (c) the working cylinders or chambers of steam, heat or air engines;
- (d) any part of refrigeration plants;
- (e) vessels in which the pressure is due to the static head of liquid or to liquid in a stand pipe or riser vented direct to the atmosphere, provided that no obstruction is inserted in the stand pipe or riser to prevent the vessel from freely venting to the atmosphere;

“raise” shall mean any tunnel having an inclination above the horizontal in the direction of working of more than five degrees and not included under the definition of “shaft”.

“safety pillar” shall mean every portion of a reef, mineral deposit or ground left in situ for the support and protection of the surface, objects thereon or underground workings;

“shaft” shall mean any tunnel having a cross-sectional dimension of twelve feet or more and -

- (a) having an inclination to the horizontal of fifteen degrees or more; or
- (b) having an inclination to the horizontal of less than fifteen degrees but more than ten degrees where the speed of traction may exceed four hundred feet per minute.

“shiftsman” shall mean a person employed on shift-work in attending to machinery who: -

- (i) has had suitable training to attend to the maintenance of all safety appliances, devices and guards of such machinery; and
- (ii) is able to stop the working of any such machine the using of which is or has become in any way dangerous to persons, due to any defect; and
- (iii) is able to read and write one of the official languages.

“socket” shall mean a hole or part of a hole remaining after being charged with explosives and blasted and which is not known to be a misfired hole;

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“steeply inclined” in connection with shafts or winzes or other underground excavations, shall mean an inclination to the horizon of more than 35 degrees;

“stope” shall mean an underground excavation made in the removal of any ground or mineral, other than coal, but shall not apply to excavations made for engine rooms and pump chambers or development excavations such as shafts, drives, winzes and raises;

“system” shall mean an electrical system in which all the conductors and apparatus are electrically connected to a common source of electric power;

“underground” shall mean below the natural surface of the earth in a mine which is entered by a shaft, tunnel, adit or stope;

“user”, in connection with any machinery which is being used and on behalf of whomsoever it may be used, shall mean the person or persons owning the machinery: Provided that the person or persons owning the same may transfer the right of using, together with the responsibilities imposed by the user, by registering the said transfer at the office of the Chief Inspector. With companies or syndicates the user shall be considered to be the manager or the person charged with the supervision of the works. The responsibility of the user under these regulations shall not cease when the machinery is placed temporarily out of use, but shall continue until such time as notice of the working of the machinery having been entirely suspended is received by the Chief Inspector;

“ventilating district” shall mean every part of a mine that has an independent intake commencing from a main intake aircourse and an independent return airway terminating at a main and return aircourse;

“water blast” shall mean an appliance by means of which water is continuously projected in the form of a spray by means of compressed air;

“winze” shall mean any tunnel having an inclination below the horizontal in the direction of working of more than five degrees and not included in the definition of “shaft”;

“workings” shall include all excavations made or being made in the course of prospecting or mining operations, whether such excavations have been abandoned or not.

*Manager appointment and duties.*

**26.** (1) Whenever in the opinion of the Chief Inspector, prospecting or mining operations on a claim or mining area or operations on a works, are carried on to such an extent as to require the appointment of a manager, he shall call upon the owner of such claim, mining area or works to do so. The owner shall within one month of such notification appoint a manager in writing and shall furnish the Chief Inspector with a copy of the letter of appointment countersigned by the person appointed.

Such letter of appointment shall specify:

- (a) the name of the owner of such claim, mining area or works;
- (b) the full name of the manager and his address;
- (c) the registered numbers of the claims or name of the mining area or works for which the manager shall be responsible;

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(d) the situation of the said claims, mining area or works.

(2) In the case of a mine or works owned by an individual person such owner may himself assume the duties and responsibilities as manager in which event he shall within seven days of the commencement of mining operations on any claim or mining area registered in his name notify the Chief Inspector in writing of such commencement and such assumption of responsibility.

(3) The owner of a mine or works shall within seven days give notice in writing to the Chief Inspector of:

- (a) any change of manager;
- b) any change in the scope of the responsibility of the manager.

(4) The Chief Inspector shall keep a register of mine and works managers with such details of their qualifications and appointments as he may consider necessary.

*Owner to give facilities to manager to comply.*

27. The owner shall provide the manager of a mine or works with the necessary means and shall afford him every facility for complying with the requirements of the regulations.

*Mine manager: Appointment, qualifications and duties.*

28. (1) Every mine or works shall be under a manager who shall be responsible for the- control, management and direction of the mine or works and who:

(a)

[paragraph (a) deleted by AG GN 179/1980]

- (b) shall be able to read and write at least one of the official languages;
- (c) shall in the case of a mine be the holder of an appropriate blasting certificate issued by the Chief Inspector;
- (d) where the number of persons engaged on the mine or works under him exceeds twenty, shall hold such certificates and/or be possessed of such practical experience as in the opinion of the Chief Inspector qualifies him to hold the position of manager.

(2) Two or more mines shall not be worked under one manager except with the written permission of the Chief Inspector.

(3) The Chief Inspector may require the appointment of more than one manager where in his opinion the extent of mining operations justifies it. Each such manager shall be appointed for a particular portion of such mine which shall be under his control and responsibility, and joint control of any mine or any portion of a mine shall not in any case be exercised by two or more managers.

(4) A manager shall during his own temporary absence appoint in writing some suitable person approved of by the Chief Inspector to be acting manager during his absence and upon such



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appointment all the duties and responsibilities of the manager shall devolve upon the person so appointed.

- (5) The manager shall: -
- (a) Take all reasonable measures to enforce the requirements of the regulations and to ensure that they are observed by every person employed on the mine or works;
  - (b) appoint such persons as may be necessary to assist him in enforcing observation of the regulations;
  - (c) provide for the safety and proper discipline of the persons employed on a mine or works;
  - (d) as soon as practicable, after the occurrence of a breach of any provisions of these regulations report such breach to the Chief Inspector, or take such other disciplinary steps as such Chief Inspector may have directed or approved of. Particulars of every such breach and of the disciplinary steps taken shall be entered in a register which shall be open for inspection at all reasonable times to the Chief Inspector.

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29.

[regulation 29 deleted by AG GN 179/1980]

*Appointment and responsibility of manager's assistants.*

30. (1) The manager of a mine may appoint one or more persons who shall be holders of the appropriate blasting certificates and who shall hold such certificates and/or be possessed of such practical experience as in the opinion of the Chief Inspector constitutes sufficient qualification, to assist him in the management, such as an assistant, sectional, or underground manager, and such person shall have the same responsibility under these regulations as the manager for such portion of the mine or works as his letter of appointment shall specify, but the appointment of such person shall not be taken to relieve the manager of his personal responsibility under these regulations.

(2) Any appointment made in terms of this regulation shall be in writing and the letter of appointment shall clearly define the portion of the mine assigned to the person so appointed.

(3) A copy of the letter of appointment countersigned by the person appointed shall be forwarded by the manager to the Chief Inspector within seven days of the date of appointment.

(4)

[subregulation (4) deleted by AG GN 179/1980]

*Other duties of manager.*

31. In addition to his other duties and responsibilities under these regulations the manager shall -

*Sanitation.*

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- (1) provide on the surface, and in the case of a mine in the underground workings, sufficient and suitable sanitary conveniences as follows: -
  - (a) Where the number of persons employed does not exceed one hundred there shall be one sanitary convenience for every twenty-five persons or portion thereof;
  - (b) where the number of persons so employed exceeds one hundred but does not exceed five hundred there shall be one additional sanitary convenience for every forty persons or portion thereof exceeding the first one hundred;
  - (c) where the number of persons so employed exceeds five hundred there shall be one additional sanitary convenience for every sixty persons or portion thereof exceeding the first five hundred;
  - (d) at each working level a well-ventilated, screened latrine, in the construction of which no wood shall be used, with impervious floor, graded and drained to a sump, shall be provided and within convenient distances of the working places;
 

[paragraph (d) amended by AG GN 179/1980]
  - (e) all pails used in connection with underground sanitary conveniences shall have close-fitting lids, which can be clamped on to prevent spillage during removal to the surface;
  - (f) all disused workings shall be barricaded off so as to prevent liability to faecal pollution;
  - (g) in every mine, the removal of pails, the cleaning and disinfecting of sanitary conveniences, floors of drives, cross-cuts, and dead-ends shall be carried on systematically by a scavenging squad under the supervision of a reliable person;
- (2) cause all latrines to be sufficiently ventilated disinfected, and to be kept clean.
- (3)
  - (a) cause all latrines to be so arranged and maintained as to be conveniently accessible to all persons employed in the mine or works;
  - (b) cause all latrines and the contents of all sanitary buckets before removal to be treated daily with common salt;
  - (c) cause all latrines as far as possible to be made and kept rodent-proof, so as to prevent rodents from gaining access to the pail contents;
  - (d) cause the seat or squatting place at every latrine to be simple in construction, comfortable in use, and easily kept clean;
  - (e) where it is impracticable to erect a permanent latrine within reasonable distance from any working place, or where the work is of a temporary nature, cause portable latrines, proportional to the number of persons engaged at work at such place, to be provided within reasonable distances: Provided that the

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Chief Inspector may issue instructions to the manager of any mine, fixing the maximum distance of a latrine from a working place and the number of conveniences thereat, if the Chief Inspector considers such instructions necessary in the interests of health;

*Time for blasting.*

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

*Plant and material to be kept in good order.*

- (5) cause all plant, material and other things necessary for compliance with the requirements of the regulations to be provided and maintained in good order and repair;

*Drinking water.*

- (6) provide a supply of wholesome drinking water, at points reasonably accessible to working places;

*Waiting places.*

- (7) (a) Provide waiting places for the use of persons prior to entering their working places and shall take effective means to prevent persons from proceeding to their working places until they have been instructed to enter by the ganger or miner who is responsible for the safety of their working place when they enter it and shall further satisfy himself by weekly reports from responsible persons that this regulation is being strictly observed;
- (b) cause all waiting places to be adequately disinfected and kept in a clean and safe condition;

*Incompetent workmen: Safety.*

- (8) not permit any incompetent or inexperienced workman to be employed on dangerous work, or work, upon the proper performance of which the safety of persons depends;

*Supervision of gangs.*

- (9) (a) not allow any ganger or miner to be placed in charge of a gang or gangs or workmen which, regard being had to the number of persons therein or the nature or position of their working places, such ganger or miner is unable to supervise efficiently in accordance with the requirements of these regulations;
- (b) in no case allow the ganger or miner to have charge of workmen scattered over more places than can be generally inspected without undue exertion within the course of forty minutes;
- (c) not allow any ganger or miner to have charge of more working places or machine drills or persons than may be determined or approved by the Administrator at any mine, or section of a mine where such determination or

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approval is in the Administrator's opinion necessary, in the interests of safety or health: Provided that in emergency he may allow a ganger to take charge of two gangs for not more than three consecutive shifts.

*Supervision in sinking.*

- (10) in the case of a shaft in the course of sinking, provide for the presence at the bottom of the said shaft of a miner in charge at all times when workmen are there present;

*Prevention of flooding.*

- (11) establish and keep in good order stormwater trenches and embankments for the protection from flooding of all underground workings, where men are employed;
- (12) rake the collar of every shaft or other similar opening from the surface, situated in low lying ground, which connects with underground workings where men are employed, so as to afford efficient protection against flooding;

*Watch to be kept.*

- (13) provide that adequate watch be kept on all reasonably accessible sources of danger from flooding of the mine or works, and that he or his representative be immediately informed of any possibility of such danger;
- (14) provide for adequate watch to be kept on all artificial constructions on his mine or works, for conserving water or which may cause water to converge or accumulate, and give notice without delay to the manager, or his representative, of all mines or works situated below such constructions of any possibility of flooding by reason of such constructions;

*Slimes dams.*

- (15) so construct any slimes dam in the neighbourhood of any building, thoroughfare or other public road or railway that no danger to life or limb or damage to property can result therefrom;

*Reports of accidents.*

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

*Chief Inspector's instructions.*

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

*Arrangements for hoisting, etc.*

- (18) provide arrangements for hoisting all persons who have to ascend in vertical or inclined shafts, winzes or other workings when the height ascended exceeds five hundred feet vertically;

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*Examination of stulls.*

- (19) cause all stulls in or above places where persons work or travel to be examined at least once a week, and maintained in a safe condition and adequately loaded;

*Search of persons.*

- (20) whenever considered necessary or desirable by him, cause any person employed on the mine or works to be searched by any person whom he has authorised in writing to do so.

[subregulation (20) amended by AG GN 179/1980]

*Mine overseer: Appointment.*

**32.** (1) The manager of a mine may appoint one or more competent persons as mine overseers to assist him in the control, management and direction thereof. Where the number of persons employed underground exceeds three hundred at any one time, the appointment of such person is compulsory.

(2) No such person shall be appointed unless he is the holder of an appropriate blasting certificate and is the holder of such other certificates and/or possessed of such practical experience as in the opinion of the Chief Inspector may qualify him to hold the position as mine overseer.

(3)

[subregulation (3) deleted by AG GN 179/1980]

(4) Any appointment made in terms of this regulation shall be in writing and the letter of appointment shall clearly define the portion of the mine assigned to the person so appointed. A copy of the letter of the appointment countersigned by the person appointed shall be forwarded to the Chief Inspector within seven days of the date of appointment.

*Responsibility.*

(5) Such person shall have all the duties and responsibilities of the manager so far as the portion of the mine assigned to him is concerned: Provided that such an appointment shall not relieve the manager of any personal responsibility under these regulations.

*Appointment of shift boss.*

**33.** (1) On every mine in which more than three hundred persons are employed underground one or more competent persons who shall be holders of appropriate blasting certificates and who shall have had not less than two years practical experience in mining shall be appointed by the manager to act as shift boss or shift bosses during each working shift. The manager or mine overseer shall not assume the duties of a shift boss except with the written permission of the Chief Inspector: Provided that any person who has successfully passed through the curriculum of a mining school recognised by the Chief Inspector may be exempted from one of the two years of practical experience.

(2) The Chief Inspector may require the appointment of additional shift bosses if he thinks it necessary in the interests of safety and health.

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(3)

[subregulation (3) deleted by AG GN 179/1980]

(4) Each shift boss shall take charge during a shift of a section of the workings of the mine.

(5) Each shift boss shall take all reasonable measures to ensure the proper observance of the requirements of these regulations by the gangers or miners working under him and shall as soon as practicable report to the manager or mine overseer any contraventions thereof.

(6) The appointment of any shift boss or bosses shall not be taken to relieve the manager or mine overseer of any personal responsibility under these regulations.

(7) Each shift boss shall at least once during his shift inspect every portion of the section of the mine assigned to him in which persons are working or through which they may have occasion to pass and shall ascertain the condition thereof as regards ventilation, sanitation, the presence of gasses, the state of the hanging-wall, footwall, and side and generally in so far as the safety and health of persons working there is concerned, and he shall then and there enter in his note book particulars of any unsatisfactory conditions, and any instructions he may have issued in these respects.

[The word "is" in the phrase "in so far as the safety and health of persons working there is concerned" should be "are" to be grammatically correct.]

(8) Each shift boss at the completion of his shift shall record in ink in a shift-boss logbook provided by the manager for the purpose and kept in a place appointed by the manager the particulars of: -

- (a) any breach of the regulations which occurred during such shift;
- (b) any instructions for the purpose of securing the safety and health of persons that he has given during such shift;
- (c) such sockets as he has examined during the shift.

(9) Such records shall be examined and countersigned by the manager or mine overseer at least once in every day and shall be open to inspection at all reasonable hours by any official of the Department and by any person employed on the said mine.

[subregulation (9) amended by RSA Proclamation R.89/1969]

(10) No person appointed as shift boss shall take immediate charge of a gang of workmen in addition to his other duties except temporarily in case of emergency.

(11) A shift boss or other official of at least equal rank shall be present underground at each working shift at blasting time and shall not travel to the surface until he has satisfied himself that the arrangements made in terms of regulation 31(4) are being carried out and he shall report daily in the Shift Boss Log-book whether or not any person or persons were exposed to dust and fumes from blasting.

*Appointment of ganger.*

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34. The manager shall provide that workmen engaged in any prospecting operations or in any work on or in a mine or works shall be under the charge and supervision of a ganger who shall be appointed to supervise the workmen under his charge for the full duration of the working shift. Any ganger in charge of a gang underground in a mine carrying out prospecting or mining operations shall be the holder of an appropriate blasting certificate issued by the Chief Inspector.

*Qualifications of ganger.*

35. (1) No ganger shall be appointed unless:

- (a) he is at least eighteen years old;
- (b) he can read and write at least one of the official languages.

(2)

[subregulation (2) deleted by AG GN 179/1980]

(3) A ganger conducting blasting operations shall be the holder of a blasting certificate issued by the Chief Inspector for the class of work in which such ganger is engaged.

(4) The ganger in charge of any workmen engaged in prospecting operations, as distinct from operations on a works, shall be the holder of an appropriate blasting certificate issued by the Chief Inspector, if the number of persons under his charge exceeds twenty.

*Duties of ganger.*

36. The ganger shall take all reasonable measures to safeguard all persons working under his charge against accident.

*Ganger to make safe.*

37. (1) Every sinking shaft, development and reclamation area, stope, opencast working or other working place which has remained idle for more than six hours, or which may have become dangerous during the shift and every working place in which blasting has taken place, shall be examined and made safe by the ganger in charge who shall be the holder of a blasting certificate in terms of regulation 252(d), and work shall not be resumed in any part of such working places until such part has been examined and made safe.

No person shall enter or remain or be caused or permitted to enter or remain in any part of such working place until such part has been examined and made safe: Provided that this prohibition shall not apply to such persons as are necessary to direct, carry out or assist in such examination and making safe.

(2) The examination and making safe required under subregulation (1) shall be carried out by the ganger appointed in terms of regulation 34 and he shall remove or cause to be removed all loose or loosened rock, mineral or ground. He may be assisted in this work by persons working under his personal supervision and control and, when deemed by him necessary for the safety of persons working under his personal supervision and control in his actual presence. He shall take all reasonable precautions to prevent persons not required to assist him from entering the working place until he has examined and made safe and until he has given them definite permission to enter.

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[There should be a comma after the phrase “when deemed by him necessary for the safety of persons working under his personal supervision and control” to offset that phrase properly.]

(3) The ganger carrying out the examination and making safe of a working place shall take all reasonable precautions for the safety of persons present to his knowledge in such working place and for the safety of any member of his gang, and such precautions shall continue as long as he allows any such person to remain in the working place or until he is relieved of responsibility thereof by another ganger. It shall be the first duty of such relieving ganger to re-examine and, where necessary, make safe the working place.

(4) If the working place becomes or is found to be unsafe during the shift, the ganger in charge shall take measures for making it safe and for safeguarding the persons in the working place while it is being made safe.

*Ganger to give warning.*

(5) No ganger in charge shall allow any person to work on or beneath ground which any person has attempted to take down or remove unless such ground is adequately supported by timbering or otherwise, and if not so supported, he shall personally warn or cause to be warned all persons working in the vicinity thereof against working or being beneath such ground and shall report the dangerous condition to any mine official entering the place in which such ground is situate.

(6) If any person working under the supervision of a ganger complains that his working place is dangerous the ganger shall not cause or permit him to remain or work in the place complained of until he has made the place safe or has had it examined by another ganger, and has obtained his concurrence as to the safety of the place.

(7) The ganger or miner in charge shall take all reasonable precautions against the injury of persons from the falling or rolling of stones, loose implements or other material.

*Dangerous ground precautions.*

(8) Before cutting hitches, building pigstyes, cogs or packs under dangerous ground, or allowing dangerous ground to be drilled into with the object of blasting it down, the ganger in charge shall by props or otherwise adequately safeguard any person carrying out the drilling or work.

[The word “pigsties” is misspelt in the *Official Gazette*, as reproduced above.]

*Life line.*

(9) No member of a gang or any other person shall work or be caused or permitted to work -

- (a) near the edge of or within any excavation where the inclination of the excavation is such that inadvertent slipping or falling may result in his falling or sliding down the excavation unless he is secured by a life line or otherwise adequately safeguarded: Provided that in sinking, timbering and repair operations in a shaft the use of a life line may be dispensed with if such person when engaged in such operations is working under the direct supervision of the ganger in charge;



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- (b) in any bin, chute, ore-pass or other place where there may be danger of such person being covered or partly covered by the movement of rock or other material into or within such bin, chute, pass or other working place unless he is secured by a life line;
- (c) near a dangerous accumulation of water unless he is secured by a life line of suitable length or otherwise protected and no person shall be caused or permitted to enter into water for the purposes of examination or other work unless adequate precautions are taken to ensure the safety of such person. The said precautions shall in every case include the taking of steps to ascertain the nature and extent of the accumulation before entry is permitted. Except in the case of insignificant accumulations of water, no person shall so enter or be caused or permitted so to enter, unless he is secured by a life line.

*Gassing to be reported immediately.*

(10) The ganger shall report without delay any case of gassing, however slight, to the manager, mine overseer or shift boss, who shall immediately give notice to the regular medical practitioner appointed to the mine of works or, if he is not available, the nearest qualified medical practitioner, or the hospital concerned.

**[subregulation (10) substituted by AG GN 179/1980]**

*Report as to persons before arrival at working place.*

(11) The ganger in charge shall report to the shift boss of his section of the mine any person unlawfully present in the working place before his arrival, or found to be unlawfully beyond the waiting place provided in regulation 31(7)(a).

*Responsibility for machinery. Engineer where over 500 H.P. is generated.*

**38.** (1) (a) At every mine or works where the designed rating of machinery used in the primary generation of power and the power supplied from outside sources together exceed the equivalent of five hundred horsepower, all machinery at such mine or works shall be under the general charge of a person who shall be a competent engineer and who shall be appointed in writing by the manager.

(b) One or more persons who shall be competent engineers may be appointed to posts such as underground, sectional or assistant engineer, to assist the competent engineer in general charge referred to under subregulation 1(a) hereof.

Every such person so appointed shall, to an extent to be clearly defined in his letter of appointment, have the same responsibility under these regulations as the engineer in general charge.

(2) No engineer shall be appointed, in terms of regulation 38(1)(a), at a mine or works, unless: -

(a) He is a person who holds a mechanical or electrical engineer's certificate of competency recognised by the Mines and Works Act of the Republic of South Africa; or

(b) has obtained a degree in mechanical or electrical engineering from a South African university or a degree in engineering recognised by the Department of Education of the Republic of South Africa as equivalent to the first mentioned degree, and has had

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not less than two years post-graduate practical experience in the maintenance and safe operation of the class of machinery of which he is required to take charge or which he is required to examine; or

- (c) has served an apprenticeship in an engineering trade which included the operation and maintenance of machinery; or who has had at least four years practical experience in the operation and maintenance of machinery and who subsequent to such apprenticeship or period of practical experience, as the case may be, has had not less than two years and three years experience respectively in the maintenance and safe operation of the class of machinery of which he is required to examine.

Such appointment shall be subject to the prior approval of the Chief Inspector.

(3)

**[subregulation (3) deleted by AG GN 179/1980]**

*Less than 500 H.P.*

(4) At every mine or works having plant developing less than 500 horse-power, all boilers, engines and other machinery shall be placed under the general charge of a competent person who shall be appointed in writing.

(5)

**[subregulation (5) deleted by AG GN 179/1980]**

(6) No mine or works requiring a competent engineer under these regulations shall be worked without such engineer for a longer period than thirty days. Such period may in writing be extended at the discretion of the Chief Inspector.

(7) The manager shall appoint in writing a competent person to take charge during such period of all boilers, engines and other machinery and undertake all the duties and responsibilities of a competent engineer under these regulations: Provided that the appointment of such competent person shall not relieve the competent engineer in charge before him of any personal responsibility under these regulations.

*Notice of appointment.*

(8) The manager shall within seven days of any appointment made under subregulation (1), (4) or (7) hereof report such appointment to the Chief Inspector in writing and shall send at the same time a copy of the letter of appointment countersigned by the person appointed.

*Permission to be in charge of two or more mines.*

(9) No competent engineer or other competent person shall be in general charge of boilers, engines or other machinery on more than one mine or works except with the written permission of the Chief Inspector.

*Large Mines, Works: More than one engineer at Chief Inspector's discretion.*

(10) The Chief Inspector may require the appointment of more than one competent engineer if in his opinion the size of the mine or works and amount of machinery renders such

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appointment necessary. Each such engineer shall be appointed for a particular portion of such machinery, which shall be under his general charge, and joint general charge of any machinery shall in no case be exercised by two or more engineers.

*Underground machinery: Running, erection weekly examination.*

(11) A mine overseer may, to an extent clearly defined in writing by the manager, exercise control over the running of underground machinery, but the erection and re-erection of such machinery shall be under the control of the competent engineer who shall be more particularly responsible for the proper arrangement of all haulage and winding machinery and ropes in connection therewith and the connections between such ropes and any conveyances, and who shall approve the competency of the person appointed for the periodical examination of such machinery, ropes and connections. Such examination shall be made at least once in each week and the results of such examination shall be forthwith recorded by the person making the examination in a book to be kept for the purpose.

*Appointment of surveyor if persons exceed 200 in number: Qualifications.*

**39.** (1) On every mine where more than two hundred persons are employed underground, the manager shall appoint a surveyor in writing who shall be the holder of a certificate and/or be possessed of survey experience as in the opinion of the Chief Inspector qualifies him to undertake the duties of a mine surveyor and who shall be actively engaged in the preparation of the mine plans and who shall be responsible for the due observance of regulation 55, as far as it is applicable, and of regulations 119, 121, 122, 123, 124, 127, 130 and 131 in so far as the Chief Inspector may have required such regulations to be observed.

(2)

[subregulation (2) deleted by AG GN 179/1980]

*Notification of appointment.*

(3) The manager shall notify the Chief Inspector in writing of the appointment of such surveyor within seven days of date of such appointment and shall at the same time furnish the Chief Inspector with a copy of the letter of appointment countersigned by the person appointed.

*Duties of surveyor.*

(4) All the plans as may be required in terms of regulation 119 and copies referred to in regulation 125 when they are first made and also on each occasion when they are brought up to date shall be signed by the surveyor appointed in terms of subregulation (1) hereof who shall be responsible for their accuracy within the limits of error prescribed in regulation 130.

*Fewer than 200 persons mine manager.*

(5) In the case of a mine on which fewer than two hundred persons are employed underground the mine plans as may be required in terms of regulation 119 may be signed by the manager who in such case shall be the responsibility of the surveyor as specified in subregulation (1) hereof.

*Indemnity for other's inaccuracy.*

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(6) Nothing in this regulation shall be taken to mean that the manager of the mine or the surveyor appointed by him shall be responsible for the accuracy of the work done before they assumed their duties in terms of this regulation.

*Driver of hoist used for conveyance of persons to hold permit.*

40. (1) (a) No person shall operate or be permitted to operate a winding engine used for the conveyance of persons on any mine unless he is the holder of a permit in writing issued to him by the Chief Inspector authorising him to operate such winding engine.
- (b) A true and legible copy of such permit, countersigned by the manager, shall be posted up by the engine driver in the engine room.

*Qualifications necessary before permit issued.*

(2) The Chief Inspector shall not issue a permit to a person authorising him to operate a winding engine used for the conveyance of persons unless such person -

(a)

[paragraph (a) deleted by AG GN 179/1980]

- (b) is at least twenty-one years old;
- (c) is of sober habits and of general good conduct;
- (d) is not defective as to sight and hearing and is not subject to any other infirmity, mental or physical, likely to interfere with the efficient discharge of his duties;
- (e) possesses a sufficient knowledge of the working of winding plants, winding operations and winding signals and of other machinery and ancillary equipment used in connection with winding and of the Mines, Works and Minerals Ordinance, 1968, and of the regulations framed thereunder;
- (f) has had charge for at least ten months of reversible hoist fitted with clutches and depth indicators and operating on a normal winding speed of not less than 500 feet per minute. The ten months of experience on hoists shall include at least six months in charge of the type of hoist which such person shall be required to operate.

(3) A person who has completed a course of training for winding engine drivers under the auspices of a training school approved by the Chief Inspector may be accepted as having had training and experience equivalent to that stipulated under paragraph (2)(f) hereof.

(4) A person who holds a permit issued in terms of regulation 42 or 43 or who holds a certificate approved by the Chief Inspector as an engine driver, or a stationary engine driver, or a locomotive engine driver, may be exempted from four of the ten months in charge of reversible hoists as well as the two months of experience on boilers called for under paragraph (2)(f) hereof.

(5) A person who produces a certificate from a mine manager to the effect that he has completed a contract of eight months of full time service as a learner driver under the supervision of a permitted winding engine driver, may be accepted as having had training and experience equivalent to that called for under paragraph (2)(f) hereof, provided he has acquired competency

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in the handling of both steam and electrical hoists to the satisfaction of the engineer appointed in terms of regulation 38 and of the permitted winding engine driver under whose supervision he received his training.

(6) A person who on the date of coming into force of these regulations had operated a winding plant used for the conveyance of persons, on full time employment in that capacity during the preceding 90 days may be accepted as having had training and experience equivalent to that called for under paragraph (2)(f) hereof.

*Duties and responsibilities of winding engine driver: When driver may start engine.*

**41.** (1) No engine driver shall start his engine before he has received a distinct and proper signal so to do, unless instructed to do so by the mine manager, engineer appointed under regulation 38, or mine overseer, or unless he has received the "clear" signal, or unless he has sole control of the skip, cage or other means of conveyance, in which case he may move such skip, cage or other means of conveyance.

(2) No engine driver shall act on any signal if he has been unable to do so within one minute after receiving it, but he shall await a fresh signal; provided that in the case of the clear signal 2 pause 2 the engine driver may at his discretion move his engine at any time during his shift, but if a period of more than five minutes has elapsed since receiving such clear signal, he shall ring the bell and then move the conveyance away very slowly.

(3) The driver of a winding engine -

- (a) shall not run such engine at a greater speed than that fixed by the Chief Inspector;
- (b) shall, except in the case of emergency, avoid shocks in starting, running and in stopping the said engine;
- (c) shall apply every possible device or means at his disposal in order to prevent the conveyance over-running the signalled destination.

*Unclutching drums.*

(4) The driver of a winding engine shall not unclutch a 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.

(5) When the drum is unclutched the brake shall only be used for the purpose of maintaining such drum stationary. Any person who lowers from an unclutched drum shall be guilty of an offence.

(6) When a winding engine is fitted with a friction clutch the engine driver shall when clutching in, test the holding power of the clutch before releasing the brake of the corresponding drum, the brake of the other drum being kept off. In the case of a steam or air hoist the test shall be made against the full power of the engine and in the case of an electric hoist against the normal starting current.

*Stop at crosshead.*

(7) In a vertical shaft in the course of sinking, except at time of blasting, the bucket or kibble when being raised from the bottom shall be stopped by the engine driver when the

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crosshead guide has been picked up, and shall not be further raised until a period of at least ten seconds has elapsed.

*Stopping before bottom in sinking.*

(8) Where a winding engine is used at a shaft in the course of sinking, the cage, skip, bucket or other means of conveyance shall not be lowered directly to the bottom of the said shaft if there are men present, but shall be stopped at least fifteen feet from the said bottom until the signal to further lower it has been given by one of the shaft sinkers thereat provided always that this subregulation shall not apply to shafts in which the shaft sinkers are not more than fifty feet from the shaft top.

(9) An engine driver shall not act in response to any signal on the "call-bell" system other than the one long ring indicating accident in shaft.

*Ten seconds pause.*

(10) An engine driver, after receiving a signal to raise or to lower persons, shall not start his engine until the expiry of at least ten seconds after receiving such signal: Provided always that the requirements of this regulation shall not apply when blasting is about to take place in a shaft in the course of sinking: Provided further that the Chief Inspector may grant permission to shorten or omit the period of ten seconds. Written notice of such permission shall be posted up on the notice board in the engine room and on the bank. The engine driver shall, however, always observe the period of ten seconds when the person giving signals is about to travel.

(11) An engine driver shall record in the drivers' log book kept in terms of regulation 81 the entries he is required to make in terms of that regulation.

*Appointment of locomotive engine driver.*

**42.** (1) No person shall take or be caused or permitted to take charge of a locomotive used on or in a mine or works, whilst used for the conveyance of persons other than those required for the working of the locomotive or train, unless he is the holder of a permit in writing issued to him by the Chief Inspector authorising him to operate such locomotive.

(2) The manager shall not issue a permit to a person authorising him to operate a locomotive for the conveyance of persons unless such person: -

- (a) is at least twenty-one years old;
- (b) is of sober habits and of general good conduct;
- (c) has had at least six months experience on the footplate of a running locomotive in the case of a steam locomotive and three months of equivalent experience in the case of any other locomotive, and possesses a competent knowledge of the operation of locomotives and of the Mines, Works and Minerals Ordinance, 1968, and of the regulations framed thereunder;
- (d) is not defective as to sight and hearing and is not subject to any other infirmity, mental or physical, likely to interfere with the efficient discharge of his duties.

*Appointment of stationary engine driver.*

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**43.** (1) A manager of a mine may issue a permit in writing authorising a competent person to drive on such mine any stationary engine, other than a winding engine used for the conveyance of persons.

- (2) Such permit shall not be issued to any person unless such person: -
- (a) is at least nineteen years old;
  - (b) is of sober habits and of general good conduct;
  - (c) has been in charge of, or employed on a full time the working of one or more units of machinery, basis for not less than a year in connection with such as steam engines, steam turbines, steam or electrically driven turbo or reciprocating compressors, totalling not less than one hundred horsepower;
  - (d) is the holder of a boiler attendant's permit or has had not less than one year of experience, on a full time basis, in charge of, or in the working of, steam boilers;
  - (e) possesses a sufficient practical knowledge of the working of compressors, steam engines, turbines, boilers and electrical motors and has sufficient knowledge of the Mines, Works and Minerals Ordinance, 1968, and the regulations framed thereunder;
  - (f) is not defective as to sight and hearing and is not subject to any other infirmity, mental or physical, likely to interfere with the efficient discharge of his duties.

*Appointment of boiler attendant.*

**44.** The manager of a mine may issue a permit in writing authorising a competent person to be in charge of or operate a boiler plant on that mine.

Such permit shall not be issued to any person unless such person: -

- (a) is at least nineteen years old;
- (b) is of sober habits and general good conduct;
- (c) has been in charge of, or assisted to operate, a boiler plant on a full time basis for not less than a year;
- (d) possesses sufficient practical knowledge of boilers and ancillary equipment and their operation, and sufficient knowledge of the Mines, Works and Minerals Ordinance, 1968, and of the regulations framed thereunder;
- (e) is not defective as to sight and hearing and is not subject to any other infirmity, mental or physical, likely to interfere with the efficient discharge of his duties.

*Appointment and duties of banksmen, onsetters and other persons authorised to give winding signals.*

**45.** (1) No person shall give or cause or permit any signals to be given for the raising or lowering of persons in a mine unless he is the holder of a banksman's or onsetter's certificate signed by the manager of that mine: Provided that, when the banksman or onsetter is not available responsible persons to whom the manager has given written permission to do so may give signals for their own conveyance and that of persons travelling with them: Provided further that the miner

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in charge in a shaft in the course of sinking, or a person under his immediate superintendence may give a signal to raise persons.

**[Subregulation (1) is substituted by AG GN 179/1980. The word "shaft" is misspelt in the *Official Gazette*, as reproduced above.]**

(2) The manager shall not appoint or issue a certificate to any person as banksman or onsetter or authorise any person to give signals unless he has on examination found that such person has a competent knowledge of the shaft operations which he has to control, of the signals to be given in connection with such operations and of the regulations prescribed for such operations and signals and for the duties of banksmen and onsetters.

(3) Every appointment of a banksman or onsetter shall be made in writing.

(4) A banksman's or onsetter's certificate shall be available only for the mine on which it is issued and shall be on the form prescribed by the Chief Inspector.

(5) No banksman or onsetter or other person authorized to give signals:

(a) shall give any signal to raise or lower a cage or skip for the conveyance of persons unless all doors or gates of such cage and all gates or barriers at the stations or landing platforms are properly shut or where possible the cover of such skip is properly fixed as the case may be, and the passengers properly placed in the conveyance or all out of the conveyance and clear of it;

(b) shall allow any person to travel in a cage, skip or other means of conveyance operated by an engine which is simultaneously used for the winding of mineral or material;

(c) shall allow any person to travel in a cage, skip or other means of conveyance with any explosives, other than detonators, safety fuse or fuse igniters, or with any drills, tools or other heavy articles, except when such articles are required for the purpose of effecting repairs in the shaft: Provided that the banksman, onsetter or other person specially authorised by the mine manager or mine overseer or any person in charge of sinking operations may travel with such explosives or such articles if such travel by such person is necessary for the efficient carrying out of his duties;

(d) shall travel or cause or permit any person to travel in a shaft or winze on the top of a cage or skip on the side, bow, rim or carriage of any skip, bucket, kibble, truck or other means of conveyance, whether loaded, partially unloaded or unloaded, or in a partially loaded skip, bucket, kibble truck or other means of conveyance: Provided that persons engaged in sinking operations, shaft examinations or shaft repairs may ride on the top of an unloaded or partially loaded cage, skip or bucket when authorised to do so by the manager or mine overseer if this is necessary for the efficient carrying out of their duties;

(e) shall fail or neglect to acquaint himself with the number of persons authorised by the Chief Inspector to travel at any one time in any cage, compartment of a cage, skip, bucket or other means of conveyance, nor shall he allow a greater number of persons than is authorised by the Chief Inspector to travel at any one time in any cage, compartment of a cage, skip, bucket or other means of conveyance;



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- (f) shall allow any other person to give signals for the raising or lowering of persons except in such cases as are referred to in the proviso to subregulation (1)(b) hereof;
- (g) shall give any signal to raise or lower a skip from or to an ore box where any person is performing work in connection with the filling of the skip, unless and until he has received from such person a signal on the signalling device referred to in regulation 66(1)(d).

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46.

[regulation 46 deleted by AG GN 179/1980]

*Surface protection: Permission to mine near buildings, etc.*

47. (1) No owner or manager of a mine shall cause or permit any mining or development operations to be carried on under, or within a horizontal distance of three hundred feet from any building or other structure, kraal, public road, railway, airfield or any other surface area requiring protection, except with the written permission of the Chief Inspector, and under such restrictions and subject to such conditions as he may determine.

*Construction of buildings, etc., on claims or mining areas*

(2) No person shall erect or construct any building or other structure, kraal, public road, railway or airfield or prepare any cropland, orchard, vineyard or plantation on or over or within a horizontal distance of three hundred feet from any undermined ground except with the written permission of the Chief Inspector and under such restrictions and subject to such conditions as he may determine.

*Construction of buildings, etc., on claims or mining areas.*

(3) No person other than the holder of a claim, owner of a mining area or holder of a mining grant in terms of section 61 shall erect or construct any building or other structure, kraal, road, railway or airfield, and no person shall prepare any cropland, orchard, vineyard or plantation within the boundaries of a claim, mining area or grant area referred to in section 61, except with the written permission of the Chief Inspector and under such restrictions and subject to such conditions as he may determine in consultation with the parties concerned.

[subregulation (3) amended by RSA GN R.817/1972]

*Penalty for breach.*

(4) Any person who fails to comply with the provisions of this regulation or with any of the conditions therein referred to, shall be liable on conviction to a fine not exceeding six hundred rand or in default of payment to imprisonment for a period not exceeding three years: Provided always that nothing in this regulation contain shall be construed as exempting any person from prosecution for an offence under the common law or any statute, or as preventing the infliction on such person, if convicted for such offence, of a more severe penalty than is herein prescribed.

*Fencing of subsidences.*

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

*Protection around trenches, etc.*

(2) In the course of excavating any pit, trench or other opening for prospecting or mining purposes, a sufficient quantity of the ground removed shall be so disposed around the limiting boundaries of such opening that approximately equal ridges are provided on those boundaries, and all reasonable precautions shall also be taken to prevent persons and domestic animals from inadvertently entering or falling into such excavations.

*Protection round disused workings.*

(3) The prospector or mine owner shall apply one of the following measures to any disused prospecting or mining excavation which is dangerous to human life, or to that of farm animals, or which endangers public traffic: -

- (a) The excavation shall be filled in with ground to the level of the surrounding surface; or
- (b) a stone wall not less than three feet high and eighteen inches wide at the top shall be built to surround the excavation completely; or
- (c) a fence not less than four feet high consisting of not less than six strands of barbed wire strung on iron standards spaced at intervals not more than fifteen feet with iron corner posts securely braced and anchored, shall be erected so as to surround the excavation completely:

Provided that the requirements of this regulation will be complied with if such prospector or mine owner applies such other means as, in the opinion of the Chief Inspector, are equivalent to the measures set out above.

**[subregulation (3) amended by RSA GN R.817/1972]**

*Protection of shaft mouths, etc.*

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

*Poisonous water etc.*

49. (1) Water containing poisonous or injurious matter in suspension or solution must be effectually fenced off to prevent inadvertent access to it, and notice boards shall be put up in suitable places to warn persons from making use of such water.

(2) The manager shall take all effective steps to prevent any water containing any poisonous or injurious matter in suspension or solution from escaping from the mining property at any time.

*Underground protection.*

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**50.** (1) Every entrance to every vertical or steeply inclined shaft or winze, and every entrance to every sump, chute, orepass, sliding hole or other dangerous place shall be kept properly fenced off by means of a barrier or gate or otherwise adequately covered, and every shaft station shall be properly fenced off from the shaft: Provided always that such barrier, gate, fence, or cover may be temporarily removed for the purposes of repairs or other operations if proper precautions are taken for the safety of persons.

(2) At the bottom of every vertical shaft used for the raising or lowering of material or persons, horizontal bars, not more than four feet six inches nor less than two feet six inches above the floor level, or other approved arrangements, shall be provided, so as to check the free passage of persons underneath or through the cage or other conveyance in use at such shaft.

(3) Where any such shaft, winze, sump chute orepass, or sliding hole or any steeply inclined stope opens directly into a travelling road, such road and any working place situated on its lower or "dip" side shall be securely fenced off so that persons working or travelling therein shall be protected against danger from stones or material falling down such shaft, winze, sump, chute, orepass, sliding hole, or stope.

(4) In open work mining, any person working on a ledge on which there is vehicular traffic with a drop of more than ten feet to the level below, and a width which is less than the sum of the height plus five feet, shall be safeguarded by an adequate guard rail or rope, or be provided with safety ropes.

*Open face working.*

(5) In open face working in alluvial soil, gravel, clay, tailings, slimes, debris or other similar ground, no person shall undercut the face, or cause or permit such undercutting of the face to take place, and no vertical face shall have a height of more than ten (10) feet, but such open face shall be worked in terraces, or at an angle of safety: Provided that the Chief Inspector in his discretion may allow a vertical height greater than 10 feet. At such open face working and at every quarry, all debris and other loose matter, or stones on the surface, shall be cleared to a distance of at least ten feet from the edge of such open face working or quarry.

*Fencing abandoned shafts.*

**51.** All underground entrances to shafts or other dangerous places which are temporarily or permanently abandoned shall be securely fenced across the whole width of such entrances, so that no person can unintentionally enter the same. No person shall cross any such fencing unless authorised to do so.

*Unsafe shafts, etc.: Measure for securing.*

**52.** (1) Any shaft, drive, stope or other excavation of any kind whatsoever, which is in use in connection with the working of a mine shall be made and kept safe for the persons working in such mine, and no person, except for the purpose of exploring or repairing or making safe, shall travel or work, or be caused or permitted to travel or work in any such shaft or working until it is made secure.

The ganger in charge of exploring or repair work or in making the place safe, shall take all reasonable precautions that the persons under his charge are secured against the falling of hanging and other dangers whilst carrying out such work.

*Timbering etc.*

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(2) In addition to such making safe as required in subregulation (1) hereof a sufficient reserve of suitable timber shall be provided conveniently for the immediate use of the workmen, together with all other materials and tools necessary for setting props quickly and efficiently.

(3) All timber, walling material, brattice cloth, and other material or tools for making any place safe on improving the ventilation, shall be provided free of any charge to the workmen.

(4) If the Chief Inspector considers that the system of supporting the roof and sides adopted in any mine or part of a mine is unsafe, either by reason of the distances fixed being excessive or otherwise, he may require the manager to fix some lesser distance or otherwise to modify the system in use.

(5) Where the hanging is friable all props shall be provided with head-boards or with caps between adjacent timbers.

*No loose articles at shaft entrances etc.*

(6) Tools, wood, or any loose articles shall not be placed or laid down or be allowed to remain in such proximity to the entrance of a shaft, winze, or stope, whether vertical or steeply inclined, which may result in their falling into them.

*No entering working place except by ganger's instruction.*

(7) No person other than a shift boss or an official of a higher rank shall, either at the beginning of a shift or after blasting, enter a working place until he has received definite instructions or permission so to do from the ganger who, for the time being, is responsible for the safety of such working place.

*Transport of carbide.*

(8) No person shall carry or cause or permit to be carried any calcium carbide underground except in lamps provided or approved by the manager, or in a watertight receptacle of a type approved by the Chief Inspector and to be provided by the manager. No person shall store or leave calcium carbide underground on coming off shift.

*Employment of persons where gases.*

**53.** (1) No person shall, except as hereinafter provided, be allowed to commence work in any part of a mine in or within one hundred feet of which there is known to be sufficient inflammable gas to show a distinct cap on the reduced flame of a safety lamp of construction approved by the Chief Inspector, or to continue such work after the discovery of the existence of gas in such quantity as aforesaid.

*Exceptions.*

- (2) The foregoing prohibition shall not apply -
- (a) when the amount of inflammable gas is so small that it does not show a cap on the flame when the flame is held two feet from the working face or from the point of issue of blowers or jets of inflammable gas;

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- (b) to persons employed in the presence and under the direct supervision of a competent ganger for the erection of brattice or for other similar work, with a view to the clearing away of inflammable gases;
- (c) to persons employed in sinking shafts in the presence of and under the supervision of a competent ganger.

*Workings nearing water, gases: Precaution.*

**54.** Where a place contains or is likely to contain a dangerous accumulation of water or noxious or inflammable gas any working which approaches that place shall have boreholes kept in advance, and such additional precautionary measures shall be taken as may be deemed necessary to obviate the danger of a sudden breaking through of such water or gases, and such working place must not exceed eight feet in width.

A surveyor shall exercise supervision at every such working place and shall be responsible for the correct direction of such working, and for the breaking through of such water or gases without accident.

In the case of a mine for which there is no mine surveyor, the manager shall have all the powers and responsibilities and perform all the duties conferred or imposed on a surveyor in this regulation.

*Boundary pillars.*

**55.** (1) On the inside of the boundary lines of every mine continuous safety pillars must be left standing, the width of which shall not be less than thirty feet measured at right angles from the boundary line.

(2) On the joint application of the owners of adjoining mines the Chief Inspector may give permission to them to weaken, cut through or mine their respective pillars between such mines under such conditions as he may prescribe in writing.

(3) In the absence of such joint application, the Chief Inspector shall have power to give written permission for the partial working, weakening or cutting through of such pillars under such conditions as he may prescribe in writing.

*Windlasses etc. Provisions for safety.*

**56.** Windlasses, whims, whips and the like in use in or about a mine shall be provided with a stopper, pawl or some other reliable holder, and provision shall be made that the hooking on and off of buckets, kibbles, or other receptacles can be done without danger to the workmen.

*Winding engine, brakes, clutches and fittings.*

- 57.** Where winding is effected by means of an engine:
- (1) An adequate brake shall be provided for every drum and kept in proper working order.
  - (2) The operating gear of the clutch of the drum shall be provided with locking gear, which shall be used to prevent inadvertent withdrawal of the clutch.

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- (3) Such bolts and other fittings of drums, brakes and clutches as might be a source of danger in the event of their becoming loose, shall be rendered secure by means of suitable locking devices.

*Driver's attention not to be distracted.*

**58.** No person shall speak to or in any way distract the attention of the person operating a winding engine whilst it is in motion, except a person in authority, and then only in cases of emergency.

*Connections between ropes and cages, buckets etc.*

**59.** The connection between the winding rope and the bucket, kibble or other means of conveyance shall be of such a nature that no accidental disconnection can take place.

In the case of cages and skips, the winding rope shall be connected thereto in such manner as is approved of by the Chief Inspector. In every case in which the Chief Inspector so requires, safety chains or other similar appliances to be approved by him, shall, in addition to any other mode of connection, be so provided as to come into operation in the event of the failure of the main connection.

*Ropes - quality, strength.*

**60.** (1) No rope, bar, link, chain, or other connection shall be used for winding purposes unless it is of good quality and manufacture and free from any patent defect and of adequate calculated strength.

(2) Every rope used for winding purposes in shafts or winzes over one hundred feet in depth, measured on an incline or vertical as the case may be, shall be made of steel wire, and the gauge of the wires used in the construction of such ropes shall be suited to the diameter of the sheaves and drums fitted.

(3) At the request of the Chief Inspector an adequate sample from the end of any winding rope shall be supplied to him.

*Raising tools, etc., Fastening.*

[punctuation and capitalisation in heading as in *Official Gazette*]

**61.** When tools, wood or other material are being raised or lowered in a shaft or winze and they project above the top of the cage, bucket, skip, kibble or other means of conveyance, the projecting portion or portions shall be securely fastened to the winding rope or to the bow of the conveyance.

*Buckets, etc., must be steadied.*

**62.** (1) No bucket or other means of conveyance shall be allowed to leave the top or bottom of the shaft or winze unless the workman in charge thereof has steadied it or caused it to be steadied.

(2) In shafts or winzes in the course of sinking, the bucket or other means of conveyance shall not be filled with loose rock or ground above the level of the brim.

*Guides and timbers in vertical shafts.*

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**63.** Vertical shafts exceeding one hundred feet in depth shall be provided with guides for kibbles, unless exempted in writing by the Chief Inspector.

Such guides shall always be kept extended down to the lowest set of timbers, and the crosshead shall be allowed to travel to the lowest set but one, but in no case shall the lowest set of timbers be more than fifty feet from the shaft bottom.

*Shaft sinking covering.*

**64.** (1) Where a winding engine is used at a shaft in the course of sinking, no person shall be allowed to work at the bottom of such shaft unless he is protected by an adequate covering extending over the whole area of such shaft, sufficient space only being left therein for the passage of any sinking cage, skip, bucket or other means of conveyance.

In the case of vertical shafts, such covering shall be situated not more than seventy-five feet from the shaft bottom. In the case of inclined shafts, such covering shall be situated not more than one hundred feet from the shaft bottom.

*Hard hats.*

- (2) (a) No person shall work in a vertical or steeply inclined shaft or winze unless he wears a hard hat of a type approved by the Chief Inspector.
- (b) No person in charge of other workmen in a vertical or steeply inclined shaft or winze shall allow any such workmen to work therein unless they wear hard hats as aforesaid.
- (c) In the case of a non-European person such hat shall be provided by the manager free of cost.

*Winding compartments. Provision against crossing.*

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

*When crossing permitted.*

(2) No person shall enter or cross, or be caused or permitted to enter or cross, a winding compartment of a shaft except for the purpose of entering or leaving a cage, skip or other means of conveyance in that compartment or effecting repairs or timbering or inspection in the said shaft.

*Winding during repairs and vice versa.*

**66.** (1) No person shall effect repairs, conduct any inspection or examination, or do any work in a compartment of a shaft or of a headgear whilst winding operation are being carried on in such compartment, and no winding shall be carried on or permitted in any compartment of a shaft whilst persons are engaged in effecting repairs in or in inspecting or examining such shaft or compartment of shaft or headgear, or in performing any other work therein, except -

**[The singular term “winding operation” should be the plural term “winding operations”.]**

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- (a) where persons are so engaged below the lowest point from which it is required that winding shall take place during such repairs, inspection, examination or work; or
- (b) where persons are so engaged in a compartment other than that in which it is required that winding shall take place: Provided that in either of such cases such persons are securely protected from any skip, cage, or other winding apparatus, as well as from falling stones and falling material; or
- (c) where winding is necessary for the purpose of such repairs, examination, or work; or
- (d) where such person is engaged in filling skips at ore boxes, if securely protected in a refuge place of adequate dimensions fitted with a signalling device to the onsetter or other authorised person so arranged that no signal can be given on such device unless the operator is completely inside such refuge place.

(2) After any repairs have been conducted in a compartment of a shaft or headgear such compartment shall not be used for the ordinary transport of persons until two trial trips as specified in regulation 82 have been run.

In the case of a shaft in the course of sinking before such trial trips are run all persons shall be withdrawn from the shaft and no person shall remain or enter or be caused or permitted to remain or enter the shaft until such trial trips have been run.

(3) The person or persons in immediate charge of any repairs, examination, or other work in a shaft shall warn the engine driver or drivers who may be on duty at the time at such shaft that such repairs, examination, or other work is about to be undertaken, and shall, where practicable, forthwith enter such warning in the driver's log-book provided under subregulation (5) of regulation 81 and such entry shall be countersigned by the driver on duty at the time at such shaft and by the driver relieving him. Where it is not practicable for the person or persons in charge of such repairs, examination or work to enter such warning the entry shall be made by the engine driver on duty. The entry shall be cancelled by the person or persons in immediate charge of such repairs, examination or work, on completion thereof.

In this regulation and in regulation 65(2) the expression "effecting repairs" shall include the oiling of rollers and pulleys.

*Shaft Signals: Provision for.*

- 67.** Unless exempted in writing by the Chief Inspector -
- (1) every winding shaft exceeding fifty feet in depth shall be provided with some efficient means for interchanging distinct and definite signals between the engine-driver and every established point from which winding is carried out, but it shall not be possible for the banksman to signal to anyone but the engine driver;
  - (2) every incline shaft which is in process of being sunk shall be provided with some efficient means for interchanging distinct and definite signals between the engine driver and a point not more than one hundred and twenty feet from the bottom of the shaft, and when this point is more than fifty feet from the bottom of the shaft, some efficient means shall also be provided and used for signalling from the bottom of the shaft to this point;
  - (3) every vertical shaft which is in process of being sunk shall be provided with two separate means in respect of each engine whereby persons employed in connection



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with such process can signal effectively from any depth in the shaft to the engine driver.

- (4) In addition to the signalling arrangements required by subregulation (1) hereof, a signalling device shall be installed in each winding compartment of every shaft, whereby distinct signals can be transmitted to the driver from any point in the winding compartment.

*Who may give signals.*

**68.** (1) No unauthorised person shall give any signal other than an accident signal, or in any manner whatsoever interfere with the signalling arrangements provided for winding operations.

(2) No person other than the banksman or onsetter shall give any signal for the winding of material or minerals unless duly authorised by the manager or mine overseer. Where the winding plant is also used for the conveyance of persons such authorisation shall be in writing.

(3) Except as provided for in regulation 45 no person other than the holder of a banksman's or onsetter's certificate shall give or shall be caused or permitted to give any signals for the raising or lowering of persons.

*Electrical signals.*

**69.** In the case of shafts where persons are regularly allowed to ride and where the signalling arrangements are operated by electricity, the following provisions shall be observed in respect of each winding engine used for the raising or lowering of persons: -

- (1) There shall be provided two separate, independent and efficient arrangements for transmitting signals.

*Locked bell system: Who may use.*

(2) The handles or push-buttons of the one arrangement as prescribed in regulation 67(1), and hereinafter called the "locked-bell" system, for the exchange of signals between the -

- (a) engine driver and banksman; and  
 (b) engine driver and the lowest point from which winding is carried on and the various intermediate stations in use;

shall be enclosed in a locked box of substantial construction. Such locked box shall be kept locked and the key or keys shall be retained by the banksman or onsetter or other authorised person when not in use.

*Call-bell system.*

(3) The other arrangement (hereinafter called the "call-bell" system), shall be easily accessible, but shall not be used except by a banksman or on setter or by persons duly authorised by the manager, and then only to indicate the station at which the cage, skip or other means of conveyance is required: Provided always that this

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regulation shall not be taken to prohibit any person from giving the accident signal on the “call-bell” system.

- (4) The bells throughout the “call-bell” system shall be of such a tone as to be easily distinguishable from that of the bells of the “locked-bell” system.
- (5) There shall be fitted at all winding plants used for raising or lowering persons a device which will automatically prevent the driver from moving his hoist until signals to do so have been received from both the banksman and onsetter: Provided always that this regulation shall not be taken to prohibit the use of any other signalling arrangements which have been approved of by the Chief Inspector.

*Code of Signals.*

**70.** (1) In signalling in shafts where persons are regularly allowed to ride, the following codes of signals shall be used and strictly observed: -

(a) In the case of the “locked bell” system: Knocks or Rings -

- 1 ..... Raise when engine at rest.
- 1 ..... Stop when engine in motion.
- 2 ..... Lower.
- 3 ..... Persons about to travel.
- 3 ..... In reply: Persons may continue to travel or may enter the cage or other conveyance for the purpose of travelling.
- 3 ..... From engine driver when cage or other conveyance containing persons is brought to rest at a station: Persons may leave the cage or other conveyance.
- 2 pause 2 ..... To driver: clear signal. Driver may move at his discretion.
- 2 pause 2 pause 2 ..... From driver: persons must leave conveyance.
- 2 pause 2 pause 2 ..... In reply: no persons in conveyance.
- 2 pause 2 pause 2 pause 2 ..... Cancel or repeat signal.
- 3 pause 3 pause 3 ..... Person giving signal about to travel.
- 3 pause 3 pause 3 ..... In reply: acknowledgement by driver that person signalling is about to travel.
- 4 pause 1 ..... Raise slowly.
- 4 pause 2 ..... Lower slowly.
- 4 pause 4 ..... To driver: “Mark” signal.
- 4 pause 4 ..... In reply: acknowledgement by driver of “Mark” signal.
- 4 pause 4 pause 4 ..... To driver: clutching signal.
- 4 pause 4 pause 4 ..... In reply: clutching operations completed.
- 5 pause 5 ..... To driver: explosives about to be placed in conveyance for transportation.
- 5 pause 5 ..... In reply: explosives may be placed in conveyance for transportation.
- 6 pause 6 ..... To driver: winding compartments served by engine locked.

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6 pause 6 .....	In reply: acknowledgement by driver of “compartments locked” signal.
6 pause 6 followed by station signal .....	To driver: winding compartments served by engine locked below station designated.
6 pause 6 followed by station signal .....	In reply: acknowledgement by driver of “compartments below station designated” signal.
6 pause 6 pause 6 .....	To driver: compartments served by engine re-opened.
6 pause 6 pause 6 .....	In reply: acknowledgement by driver of “compartment served by engine re-opened” signal.
6 pause 6 pause 6 pause 6 .....	To driver: shaft examination and repairs about to take place.
6 pause 6 pause 6 pause 6 .....	In reply: acknowledgement by driver of “shaft examination and repairs” signal.
7 .....	To driver: persons about to have access to cage or conveyance for a purpose other than travelling.
7 .....	In reply: persons may have access to cage or other conveyance for a purpose other than travelling.
7 pause 7 .....	To driver: cage or other conveyance is clear of all persons who have had access to it for a purpose other than travelling.
7 pause 7 .....	In reply: acknowledgement by driver of “persons clear” signal.
15 .....	Electrician testing bells.
15 .....	In reply: acknowledgement by driver of bell testing signal.
15 pause 2 pause 2 .....	Electrician has completed test.
10 followed by station signal .....	Accident to persons: Station where conveyance is required.
1 long ring .....	Accident to shaft. Winding operations to be suspended immediately in all compartments of the shaft.

(b) In the case of the “call bell system”: -

Knocks or Rings -

10 followed by station signal .....	Accident to persons. Station where conveyance is required.
1 long ring .....	Accident to shaft. Winding operations to be suspended immediately in all compartments of the shaft.

(c) In the case of any purely mechanical signalling system -

The “locked-bell” code given under subregulation (1)(a) above, as far as it is applicable and practicable, but with the substitution of “continued ringing” for “1 long ring” for the “accident to shaft” signal.

*Access to conveyance.*

(2) Except as is hereinafter provided, no person shall enter or have access to or be permitted to enter or to have access to a cage or other conveyance for any purpose whatsoever, or shall continue to travel in such cage or other conveyance unless and until the appropriate signals

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required in terms of the above code have been exchanged, or if a signal cannot be given on the bell system, some other appropriate and distinct signal has been received from the driver.

*Sinking shafts.*

(3) In the case of a shaft in the course of sinking no person shall enter the conveyance at the shaft bottom until it has been raised and lowered or until some other distinct signal has been received from the driver. Exemption from the provisions of this subregulation may be granted by the Chief Inspector and written notice of such exemption shall be posted up on the notice board in the engine room and on the bank.

*Blasting signal.*

(4) The person in charge of blasting operations in a shaft in the course of sinking shall notify the engine driver by a special signal, namely five knocks or rings, when blasting is about to take place, and except in the case of firing by electricity, the driver shall reply by raising and lowering the conveyance a few feet.

*Special signals.*

(5) In addition to the foregoing, special signals may be used provided they have been approved by the Chief Inspector.

*Codes to be posted up.*

71. (1) (a) The codes of signals referred to in regulation 70 or an abridged form thereof approved by the Chief Inspector, as well as any special signals that may be in use on a mine, shall be suitably displayed in the form of distinctly legible notices in letters and figures not less than half an inch in height.

The decision whether such notices are suitably displayed and distinctly legible shall rest with the Chief Inspector.

(b) Such notices shall be posted up in the winding engine room, at the bank and at all shaft stations for the time being in use.

(c) In the case of a mine where only some of the signals in the aforementioned codes are used it shall be necessary to display only those portions of the codes which are used on such mine.

(2) Any person acting in conflict with any code of signals referred to in regulation 70 or the special signals used on a mine shall be guilty of an offence.

*Raising and lowering of persons etc.*

72. No person shall operate a winding engine used for the conveyance of persons unless he is the holder of a permit issued in terms of regulation 40.

*Permission to use winding plant.*

73. Except where exemption has been granted in terms of regulation 85 no winding plant shall be used for the conveyance of persons unless the requirements of regulations 67, 71, 74, 77, 78 and 79 so far as they are applicable have been proved to the satisfaction of the Chief Inspector

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by actual test to have been complied with and the special written permission of the Chief Inspector or a certified and legible copy thereof, is posted up in the engine room.

*Winding plant condition.*

74. (1) The winding engine shall be such that -
- (a) when running at various speeds with light and heavy loads it can be readily slowed and stopped, and after stopping, can be immediately started again in either direction by the engine driver;

*Lift of engine.*

- (b) it can lift from bottom to top of shaft or winze the maximum unbalanced load on one drum. This provision shall not apply in cases where other means exist enabling persons employed below to reach the top of such shaft or winze;

*Interlocking device.*

- (c) each winding drum shall have a suitable interlocking device fitted so that it is impossible to unclutch the drum unless the brakes of the drum are on, and it shall be impossible to release the brakes until the clutch is fully engaged and securely locked;

*Amount of slipping.*

- (d) each winding drum when unclutched from the engine can be maintained in a position of rest by means of its own brake or brakes, with no more slipping than one foot, when the conveyance is loaded to the maximum permitted weight of mineral or to double the maximum permitted weight of persons, whichever is the greater;  
In estimating the total weight of persons for the purpose of this subregulation and of regulation 77, one hundred and fifty pounds shall be allowed for each person;
- (e) where no part of the rope is rigidly fixed to the drum there shall be no dangerous slipping of the rope on the drum under any possible working conditions.

*Fixing of rope.*

(2) There shall be on the drum of the winding engine such flanges or horns, and also, if the drum is conical or spiral, such other appliances as may be sufficient to prevent the rope from slipping off or coiling unevenly.

(3) In the case of winding engines other than those of the sheave type there shall be not less than three rounds of rope upon the drum when the cage, skip or other means of conveyance is at the lowest point of the shaft or winze from which hoisting is effected.

The end of the rope shall, where applicable, be properly fastened round an arm or the shaft of the drum.

*Depth Indicator.*

(4) Every winding engine shall, in addition to any marks on the rope, be provided with reliable depth indicators, conveniently situated, which will clearly and accurately show to the engine driver at his driving seat at all times: -

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- (a) the position of the cage, skip, or other means of conveyance; and
- (b) at what places in the shaft changes of gradient necessitate reduction in speed.

On any new engine the point of the dial indicator on the driver's right hand shall move in a clockwise direction when lowering, and in the case of a post and spiral indicator the pointer shall move up or down as the conveyance moves up or down.

In the case of Whiting hoists, single drum hoists and hoists having two drums permanently fixed on one shaft, only one indicator need be provided.

(5) In every shaft exceeding three hundred feet in depth, adequate provision shall be made whereby the engine driver is warned of the arrival of the cage, skip or other means of conveyance at a point in the shaft, the distance of which from the top landing place is not less than the equivalent of three revolutions of the drum or sheave of the winding engine.

(6) On every hoist used for the conveyance of persons, such suitable device or devices as may be approved by the Chief Inspector shall be fitted to provide against the overwinding of the cages, skips, or other conveyances.

*Overwind devices: Examination.*

(7) The overwinding prevention devices shall be examined weekly and, where practicable, tested periodically and a record shall be kept by the person deputed under regulation 81(1), of these examinations and tests, in the machinery record book required in terms of regulation 81(4).

*Speed indicator.*

(8) To all winding engines with a permitted speed of over 1,000 feet per minute, there shall be fitted and used a recording tachograph and a speed indicator, which shall be maintained in good working order.

*Prospecting shafts manual or animal power.*

75. The provisions of regulations 73, 74, 78 and 79 shall not apply in the case of prospecting shafts or winzes not exceeding one hundred feet in depth where winding is done by manual or animal power.

*Speed of winding engines.*

76. (1) The Chief Inspector shall fix the maximum speed at which the winding engine shall run, and such maximum speed shall be entered on the written permission of the Chief Inspector, which is to be posted up in the engine room accordance with regulation 73.

*Maximum duration of shift.*

(2) The Chief Inspector shall fix the maximum duration of the shift to be worked by the engine driver, and shall in such case insert this condition on the certificate of permission.

*Relation of breaking load to maximum working load.*

77. (1) Unless exemption has been obtained from the Chief Inspector because of the great depth of the shaft or the low winding speed, no winding rope shall be used for the raising

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and lowering of persons or material when the breaking load at anyone point therein has become reduced to less than six times the combined weight of the rope (when the conveyance is at its lowest working point), the conveyance and its attachments, and the total permitted weight of persons or material.

*Ratio of man load to other load.*

(2) In the case of a winding rope that is used for the conveyance of persons or material and for the conveyance of mineral, the Chief Inspector shall fix the maximum weight to be attached to the rope in any circumstances. In no case shall such weight be exceeded. The total weight attached to the rope when persons or material are conveyed shall not exceed 85 of the weight attached to the rope when mineral is conveyed.

*Spliced rope use of.*

- (3) (a) In no case shall a spliced winding rope be used without the written permission of the Chief Inspector.
- (b) In no case shall a winding rope be used from which a weak or defective portion has been cut and the cut ends spliced.

*Use of old rope: Permission.*

(4) No winding rope which has previously been in use in any place outside the control of the manager, shall be put into use as such, except with the permission of the Chief Inspector.

*Spare rope.*

(5) At least one spare winding rope suitable for each winding engine in use shall be kept in reserve on every mine, and shall be at all times ready for use, except when there are two engines for the same shaft or when the Chief Inspector has in writing granted exemption from the requirements of this section.

**Test of rope**

**78.** (1) When a new winding rope is not accompanied by a test certificate from the country of manufacture showing the amount of its breaking load and that such amount has been ascertained by actual test, such rope shall not be used unless a portion thereof, not less than ten feet in length, has been cut off and tested.

*Rope record book: Contents.*

(2) The result of the test shall be recorded in a book which shall be supplied by the Manager and which shall be termed the Rope Record Book and which shall in addition to the actual breaking load of the rope obtained in the test contain the following particulars of winding ropes: -

- (i) Maker's data of rope when new or copy thereof certified by the manager: -

Name and address of manufacturer;  
 coil number;  
 date of manufacture;  
 date of purchase;

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length of rope in feet;  
diameter and circumference of rope in inches or (in the case of flat ropes)  
width and thickness of rope in inches;  
weight per foot in pounds.

Construction of Rope: -

Number of wires;  
diameter of wires (decimals of an inch);  
class of core;  
class of steel of which wire is made;  
breaking stress of steel of which wire is made (tons of 2,000 lb. per square  
inch);  
breaking load of rope (tons of 2,000 lb.).

(ii) History of rope in use: -

Name of shaft in which rope is used;  
compartment in which rope is used;  
date on which rope was put on;  
date of shortening;  
dates of recapping;  
dates of turning end for end;  
dates of tests after shortening;  
breaking stresses of wires at these tests;  
date when rope was taken off;  
dates of annealing or renewing connections between ropes and conveyances.

Each record shall be signed by the person responsible for the required examination.

*Headgear clearance.*

**79.** (1) The headgear shall, except in such cases as may be exempted in writing by the Chief Inspector from the requirements of this regulation, be carried without obstruction to the cage or skip-way to such a height as to allow a clearance of at least twenty-five feet in which the cage, skip or other means of conveyance can travel freely above the highest passenger stopping place in case of an overwind.

*Overrun space.*

(2) The lowest passenger landing place in any shaft exceeding one thousand (1,000) feet in depth other than a sinking shaft, shall have at least twenty-five feet of unobstructed overrun space below it in which the conveyance can freely travel.

*Supporting contrivances.*

(3) In all vertical shafts there shall be fitted detaching hooks and spring keps or jack catches or other effective contrivance to support a detached conveyance.

*Construction of cages – Cover.*

**80.** (1) No cage, skip or other means of conveyance shall be used for the raising or lowering of persons in vertical or steeply inclined shafts except for the persons engaged in sinking



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operations, repairs, or examination of the shaft, unless it is provided with a proper roof or cover on the end nearest to the surface and where applicable with safety catches approved by the Chief Inspector.

*Doors.*

(2) No cage shall be used for the raising or lowering of persons unless it is so constructed as to prevent any portion of the body of any person riding therein from accidentally coming into contact with the timbering or sides of the shaft, and doors shall be so fitted that they cannot accidentally be opened.

*Number to be carried.*

(3) The Chief Inspector shall fix the number of persons to be allowed to ride at any one time in a cage, skip, bucket or other means of conveyance, and a notice clearly showing the number so fixed shall be kept posted up at each landing place.

*Simultaneous hauling of men and materials.*

(4) No person shall travel or be permitted to travel, in a cage, or skip or other means of conveyance operated by an engine which is being simultaneously used for the winding of mineral or material.

*Exceptions.*

(5) No person shall travel or be permitted to travel in a cage, skip, bucket, kibble, truck or other means of conveyance together with any explosives other than detonators, safety fuse, and fuse igniters or with any drills, tools, or heavy articles, except when the same are required for the purpose of effecting repairs in the shaft: Provided always that this regulation shall not apply to any banksman, onsetter, or any other person who shall be specially authorized by the manager or mine overseer to travel with such explosives, drills, tools, or other articles, nor to any person in charge of sinking operations.

*Travelling outside conveyance.*

(6) No person shall descend or ascend or order or permit any other person to descend or ascend a shaft or winze on the top of a cage or on the side, bow, rim, bale, or carriage of any skip, bucket, kibble, truck or other similar means of conveyance, whether loaded or unloaded or in a partially loaded skip, bucket, kibble, truck or other similar means of conveyance, provided that persons engaged in sinking operations, shaft examinations, or shaft repairs may ride on the top of an unloaded or partially loaded cage, skip, or bucket, when authorised to do so by the manager or mine overseer, if this is necessary for the efficient carrying out of their duties.

**81.** Whenever the permission of the Chief Inspector for the use of winding plant has been obtained in accordance with the requirements of regulation 40 or 73 the following conditions shall apply: -

*Examination of winding plant.*

(1) The manager shall appoint in writing some competent person or persons whose duty it shall be to examine carefully -

*Ropes, cages, etc.*

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- (a) at least once in each day the winding ropes and the attachments thereof to the drums and to the cages, skips or other means of conveyance, the brakes and the depth indicators, the cages, skips, or other means of conveyance, and any safety catches attached thereto, and the pulley wheels and all and every external part of the winding arrangements, upon the proper working of which the safety of persons depends;

[The word “pulley” is misspelt in the *Official Gazette*, as reproduced above.]

*Guides: Compartments.*

- (b) at least once in each week the guides rails and the winding compartments generally and the signalling arrangements.

[The term “guide rails” is misspelt in the *Official Gazette*, as reproduced above.]

- (2) The Engineer appointed under regulation 38 shall examine -

*Engine.*

- (a) at least once in each week the external parts of the winding engine;
- (b) at least once in each year the winding engine as to the working conditions of the internal parts;

*Structure of ropes.*

- (c) at least once in each calendar month at intervals not exceeding 45 days the structure of the winding rope, with a view to ascertaining the amount of deterioration thereof. For the purposes of this examination the rope must be thoroughly cleansed at places to be selected by the said engineer, who shall note any reduction in the circumference of the rope, the superficial condition of the wires as to wear, corrosion, fractures and brittleness, and all other data necessary for ascertaining the amount, extent and distribution of the deterioration of the rope;

[The word “calendar” is misspelt in the *Official Gazette*, as reproduced above.]

*Rope connections.*

- (d) at least once in each calendar month at intervals not exceeding 45 days, the engineer or competent person appointed under regulation 38 shall examine the connection between the rope and the cage, skip or other means of conveyance.

*Duty where defect discovered.*

- (3) If on any such examination as is hereinbefore required there is discovered any weakness or defect by which the safety of persons may be endangered, such weakness or defect shall be immediately reported to the manager in writing, and until such weakness or defect be remedied the winding plant shall not be used. If the examination discloses features such as undue or rapid wear, or fractures of, the wires which, although not constituting sufficient reason for condemning the rope, call for

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more than the usual attention, the engineer shall make more frequent examinations that are prescribed in subregulation (2) hereof.

*Machinery record book.*

- (4) The manager shall keep or cause to be kept at the mine a book to be termed the Machinery Record Book in which shall be recorded -
- (a) the names of the persons deputed under subregulation (1) of this regulation;
  - (b) a true report of the result of every such examination as is hereinbefore referred to, signed by the person making the examination.

*Driver's log book.*

- (5) The manager shall keep or cause to be kept in the winding engine room a book to be termed the Driver's Log Book, in which shall be recorded in duplicate: -
- (a) A true report of the condition of the winding engine including the brakes, clutches, reversing gear, depth indicators, and all other fittings; such report shall be made and signed by the engine driver for each period of charge, the time and duration of which are to be recorded;
  - (b) a true report of the condition of the signalling arrangements and a notation of any signals received by the driver, the accuracy of which he has questioned; such report to be made and signed by the engine driver for each period of charge;
  - (c) any special instructions involving the safety of persons given to the engine driver; such entry shall be signed by the person giving instructions.

*Log book to be countersigned.*

- (6) These entries in the log book shall be inspected and countersigned daily by the person appointed to carry out the duties specified in subregulation (1) of this regulation. The duplicate shall be inspected and signed daily by the engineer appointed under regulation 38.

*Re-capping of rope.*

- (7) (a) At least once in six months the winding rope shall be recapped, a portion thereof not less than six (6) feet in length being at the same time cut off the lower end.
- (b) The portion of the rope so cut off shall have the ends adequately fastened with binding wire to prevent disturbance of the strands and shall be tested. The results of the test shall be entered in the Rope Record Book.

*Annealing.*

- (c) At least once in six months, the connection between the rope and the cage, skip or other means of conveyances, if more than one conveyance is used, shall be annealed or re-placed.

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*Record of annealing.*

- (d) A proper record shall be kept of the annealing of all chains, links, bars and bolts used in connecting the rope to the cage, skip or other means of conveyance. This record shall contain a personal report by the person appointed in terms of regulations 38 on the procedure and his comments on the results.

*Trial runs after repair or replacement of equipment.*

**82.** (1) When any new or newly repaired crosshead, bucket, cage, skip or other means of conveyance or new or newly serviced detaching hook, bar, link chain, capel, or other means of connection between a winding rope and such conveyance, or any winding rope is installed, such conveyance, connection or rope shall be carefully examined by some competent and reliable person authorised thereto by the manager and such conveyance, connection or rope shall not be used for the ordinary transport of persons until the conveyance containing its maximum permitted weight of material or mineral has been run through two trial trips up and down the shaft between the highest and lowest stopping places ordinarily in use. The first such trip up and down the shaft shall be run at less than half the permitted maximum winding speed and the second such trip up and down the shaft at the full permitted winding speed.

(2) The result of the above examination shall be immediately recorded in the Rope Record Book which shall always be open to the inspection of any officer of the Department.

**[subregulation (2) amended by RSA Proclamation R.89/1969]**

(3) In the case of a shaft in the course of sinking before such conveyance, connection or rope is installed, all persons other than those necessarily required to effect the installation shall be withdrawn from the shaft and no person shall remain or enter or be caused or permitted to remain or enter the shaft after such installation until such trial trips have been run.

*Trial run after stoppage.*

**83.** After any stoppage of winding exceeding one hour in duration, the winding engine shall not be used for raising or lowering persons until the cage, skip or other means of conveyance has been run at least one complete trip up and down the working portion of the shaft.

*Tests by inspector of machinery.*

**84.** The Chief Inspector shall, after consultation with the manager, have the power to order specific or periodic tests or inspections by the Inspector of Machinery of all hoists permitted regularly to convey persons.

*Exemptions for hoists.*

**85.** Exemption in writing from some or all of the provisions of regulations 73, 74, 79 and 81 may be given by the Chief Inspector on application being made to him by the owner or manager, but no persons other than sinkers or persons engaged in repairing or examining a shaft or winze shall be raised or lowered by a hoist, for which such exemption has been granted.

*Railways and Tramways.*

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**86.** No person shall be placed in charge of a locomotive engine used on or in a mine or works whilst used for the conveyance of persons other than those required for the working of the locomotive or train unless he is the holder of a permit issued in accordance with regulation 42.

*Underground Tramways: Provisions for signals and safety devices.*

**87.** The following provisions shall apply to underground traction: -

- (1) (a) Where traction is operated by machinery other than locomotives, a signalling apparatus shall be provided by which distinct signals can be given to the engine driver from convenient places along the tramway;
- (b) where traction is operated by gravity and the inclined plane exceeds one hundred and fifty feet in length, some efficient means of communicating distinct signals between the stopping places shall be provided;
- (c) on every inclined plane one or more effective contrivances shall be provided and used to arrest trucks or other vehicles should they run or move out of control down such inclined plane, provided that this subregulation shall not apply to inclined planes where the gradient is such that trucks cannot run out of control.

Where trucks are operated by a rope, they shall be properly attached to the rope before being moved into, or placed in a position from which a runaway can occur;

- (d) where the aforementioned effective contrivances are hand-operated, every person operating any such contrivance shall be afforded adequate protection from any truck or vehicle moving out of control;
- (e) the shift boss in the section of the mine under his charge shall personally appoint every person required to operate a contrivance such as referred to in subregulation (1)(c) hereof, and such shift boss shall personally instruct such person in the proper and safe way of performing his duties; if there is no shift boss miner or ganger in charge shall appoint a person to operate such contrivance and shall personally instruct such person in the proper and safe way of performing his duties.

*Manholes.*

- (2) (a) If persons are allowed to travel on any haulageway or inclined plane where traction is operated by machinery or gravity and where the speed of traction exceeds four miles per hour or where the gradient exceeds one in twelve, places of refuge at intervals of not more than fifty feet shall be provided, if there is not ample room for a person to stand between moving trucks and the side of the haulageway or inclined plane. If the Chief Inspector requires it, fenced travelling ways shall be provided.
- (b) Every such place of refuge shall be constantly kept clear.

*Riding on haulage gear.*

**88.** (1) No person shall travel on or in any truck or on the haulage rope unless authorised to do so by the manager or mine overseer.

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(2) The manager or mine overseer shall not authorise the regular conveyance of persons in or on any truck or other means of conveyance on any haulage or include plane where traction is operated by machinery until written permission has been obtained from the Chief Inspector, who may impose such conditions as he considers necessary for the safety of the persons conveyed.

*Clearance.*

**89.** Where a main travelling-way lies between a double line of rails, such lines shall be kept sufficiently far apart to allow a clearance of not less than two feet between any two trucks passing each other on the respective lines: Provided that this regulation shall not apply to haulageways in which the speed of the trucks is less than four miles per hour and the gradient less than one in twelve.

*Public crossings.*

**90.** (1) Where a tramway passes over a public railway line, electric, steam or other tramway at a level crossing, a signalman bearing a red flag shall be stationed at the crossing to warn people of the approach of the tramway trucks, and to prevent such trucks crossing a railway line while a train is approaching.

(2) No tramway truck may be run over any level crossing as specified above or over any level crossing of a road or pathway at a greater speed than four miles an hour.

*Outlets, travelling ways and ladders.*

**91.** (1) Every mine shall be provided with shafts or outlets to surface such that except as permitted in terms of regulation 93 every person employed underground in such mine shall have available to him not less than two separate and independent shafts or outlets affording means of egress from underground to surface.

(2) Such two separate and independent shafts or outlets to surface -

*Distance apart.*

(a) shall not at any point be nearer to each other than thirty feet;

*Travelling arrangements.*

(b) shall be provided with proper arrangements, which shall be kept constantly available for use, to enable persons to travel to and from the surface;

*Maintenance.*

(c) shall be maintained in a safe condition and at a sufficient cross-sectional area throughout to allow the free passage of persons.

*Responsibility.*

(3) The manager of the mine shall be responsible for such outlets to surface. Should any obstruction arise in such outlet or anything occur in the mine to affect the safe use of such outlet such obstruction or occurrence shall be immediately reported to the manager and by him to the Chief Inspector.

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*Two connecting ways to shafts or outlets.*

**92.** (1) Except as permitted in terms of regulation 94 no person shall enter or be permitted to enter any working in a mine unless he has available to him at least two ways of egress from such working, one to each of two shafts or outlets to surface. Such ways shall be so arranged that should either become unavailable at any point the other will afford means of egress from such working to a shaft or outlet to surface.

(2) The connecting ways providing ways of egress to the shaft or outlets required under subregulation (1) hereof, shall: -

*Travelling arrangements.*

- (a) be provided with proper arrangements which shall be kept constantly available for use to enable persons to travel to and from the shafts or outlets;

*Maintenance.*

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

*Responsibility.*

(3) The manager of the mine shall be responsible for the connecting ways required under subregulation (1) hereof. Should any obstruction arise in such connecting way or anything occur in the mine to affect the safe use of such connecting way such obstruction or occurrence shall be immediately reported to the manager.

*Exemption from regulation 91(1).*

**93.** (1) Provided it conforms with the requirements of subregulations (2)(b) and (2)(c) of regulation 91, one shaft or outlet to surface from any underground working from which there is no other means of egress to surface shall be deemed to be sufficient means for such egress -

- (a) if not more than ten persons are at any one time engaged in the whole of such workings;
- (b) if more than ten but not more than two hundred persons are at any one time employed in the whole of such workings provided permission under such conditions as he may prescribe has been obtained in writing from the Chief Inspector.

(2) Provided it conforms with the requirements of subregulations (2)(b) and (2)(c) of regulation 91, one shaft or outlet to surface shall be deemed to be sufficient means of egress from below ground to surface for persons employed -

- (a) in any shaft or winze from the surface in the course of sinking or in any adit being developed or in places where work directly accessory to the sinking or development is being carried out;
- (b) in underground workings if one of the two prescribed shafts or outlets to surface has become temporarily unavailable for use by the persons employed in such workings provided that every effort taking precedence over all work for the purpose of winning

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minerals is being made by the manager to restore availability. The manager shall without delay notify the Chief Inspector of the attendant circumstances.

*Exemption from Regulation 92.*

**[capitalisation in heading as in the Official Gazette]**

**94.** Provided it conforms with the requirements of subregulations (2)(a) and (2)(b) of regulation 92 a connecting way which at any portion of its extent between underground workings and a shaft or outlet to surface is the only means of egress from such workings to any such shaft, shall be deemed to provide sufficient means of egress for persons from such workings -

- (a) if not more than ten persons are employed in the whole of such workings and are engaged -
  - (i) only in making a new connecting way to afford means of egress for persons to a second shaft or outlet to surface; or
  - (ii) in prospecting or development operations but not in the winning of minerals by means other than development operations;
- (b) if more than ten but not more than fifty persons are at any one time employed in the whole of such workings provided permission under such conditions as he may prescribe has been obtained in writing from the Chief Inspector;
- (c) if such workings are part of a connecting way to a second shaft or outlet to surface and such persons are engaged only in restoring to availability any portion of that connecting way that may have become temporarily unavailable as a means of egress for persons to such second shaft or outlet to surface.

*Where ladderways are necessary.*

**95.** (1) Except as permitted in terms of subregulation (2) hereof, a travelling way equipped with a proper ladder shall be provided when the inclination from the horizontal exceeds twenty degrees: -

*Installation of ladders in shaft or outlet to surface.*

- (a) In a shaft or outlet to the surface if according to the provisions of regulation 93 such shaft or outlet is allowed to afford the only means of egress to surface for persons employed in underground workings;

*Installation of ladders in connecting way to shaft or outlet.*

- (b) in a connecting way, or part thereof, from any part of the underground workings to a shaft or outlet to the surface if such connecting way, or part thereof, affords the only means of egress to a shaft or outlet to surface for persons employed in any working place;

*Installation of ladders in sinking shafts.*

- (c) in a shaft or winze in the course of sinking.



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In this case the ladderway shall be provided to such a distance from the bottom of such shaft as is the minimum necessary to secure the ladderway from damage during blasting. From the lower end of such ladderway to the bottom of the shaft there shall be provided chain or wire rope ladders.

*Two winding plants in lieu of ladderway.*

(2) The provisions of subregulation (1) hereof shall not apply if at least two winding plants of adequate capacity are kept available for immediate use to convey persons and if adequate power for winding purposes from at least two independent sources is provided at the winding plants, so that in the event of failure of the power supply from one such source the supply from the other will be readily available.

*Foot travelling ways in shafts.*

**96.** (1) In every shaft that has an inclination of forty-five degrees or more from the horizontal, any compartment used as a foot travelling way shall be securely partitioned off from the other compartments by suitable means to protect persons in the travelling way against danger from falling objects that may be projected or deflected into the travelling way. Such compartment shall be equipped with a proper ladder.

(2) In every shaft that has an inclination of more than ten degrees but less than forty-five degrees, any compartment used as a foot travelling way shall be securely partitioned off from the other compartments to a height of at least five feet above the ladder, measured normal to the dip.

(3) Shafts not used for winding purposes may be exempted in writing from the provisions of subregulations (1) and (2) hereof by the Chief Inspector.

*Ladderways.*

**97.** The following provisions shall apply to ladderways in a mine: -

(1) Where the inclination from the horizontal is more than fifteen degrees and less than seventy degrees the ladder shall not be continuous over a greater distance than fifty feet.

(2) Where the inclination from the horizontal is seventy degrees or more resting platforms shall be provided at distances apart of not more than thirty feet and the ladders shall be so placed as to cover the manholes of the resting platforms.

(3) Where the inclination from the horizontal is more than thirty-five degrees the ladders shall project at least three feet above the mouth of the shaft or other excavation and above every resting place, except when strong rails are fixed at such mouth or resting place.

(4) No ladder shall be erected at an inclination of more than eighty degrees from the horizontal except with the written permission of the Chief Inspector.

(5) No ladder shall be fixed in an overhanging position or so as to obstruct the travelling space in any roadway.

(6) Every ladder shall be -

(a) of strong construction;

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- (b) securely fastened to the timbering or wall of the excavation; and
- (c) maintained in good repair.

*Tools and material not to be carried on ladder ways.*

**98.** No person shall carry or be permitted to carry any drill, tool or any loose material on a ladderway in a vertical or steeply inclined shaft or connecting way except so far as may be necessary in executing repairs to such ladderway, vertical or steeply inclined shaft or connecting way.

*Height of Main Travelling roads.*

[capitalisation in heading as in the *Official Gazette*]

**99.** Every main travelling road in a mine shall be maintained at a height of at least six feet or at a lesser height as the Chief Inspector may permit in writing.

For the purpose of this regulation “main travelling road” shall mean a road used by the main body of any shift employed in the mine for travelling to and from their working places and, where the mine is divided into sections or districts, the road used by the main body of men employed in such section or district.

*Ventilation and fires: Collar of shaft to be kept clear.*

**100.** (1) The vicinity of the collars of downcast shafts shall so far as practicable be kept clear of smoke and dust.

*Splitting of current: Quantity of air per person.*

(2) The ventilating current from the downcast shaft shall be suitably split to provide that each ventilating district in a mine shall be supplied at all times with fresh air, never less in quantity than seventy cubic feet per minute for each person employed in such district and at a minimum velocity of fifty feet per minute at the working face.

(3) The ventilating current in a ventilating district shall be suitably split to provide that each working person in a mine shall receive not less than seventy cubic feet of air per minute per person employed therein, and such Kata thermometer standard shall be maintained as the Chief Inspector after consultation with the manager may require.

*Mechanical aid.*

(4) Where the natural ventilating current is insufficient in any mine or in any working place in a mine, suitable mechanical appliances for ventilating shall be installed and operated at or in such mine or working place to provide a sufficient ventilating current.

*Suitable layout of arrangements.*

(5) If any ventilating arrangement in a mine is, in the opinion of the Chief Inspector, not suitably laid out he may direct the manager in writing to amend the arrangement.

*Self-closing doors.*

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(6) Every door directly assisting or in any way affecting the ventilation of a mine shall be so adjusted as to either be self-closing or to be operated by an attendant, unless any such door is required to be closed only occasionally and under special circumstances.

*Plans.*

(7) Directions of main air currents and positions of doors, stoppings, crossings and main ventilating appliances shall be shown on the plans referred to in regulation 119.

*Foul air examination of old workings, flame safety lamps.*

**101.** Underground workings, especially shafts, sumps and winzes which have been in disuse for some time, shall be examined before again being used in order to ascertain whether foul air or other dangerous gases have accumulated there, and only such workmen as may be necessary to make such examination shall be allowed to proceed to such places until such places are in a fit state to work or travel in. If such places are likely to contain any explosive gas no flame other than that of a flame safety lamp shall be used for purposes of such examination.

*Ventilation of dead ends.*

**102.** (1) No person shall be caused or permitted to enter after blasting has taken place therein any tunnel or development end such as a drive, cross-cut, raise, incline shaft, or winze or any other working place in which there is no through ventilating current, until a quantity of fresh air not less than the volume of such tunnel or development end or such other working place, beyond the last through ventilation connection, or not less than a smaller quantity sanctioned by the Chief Inspector in writing for that particular working place has been supplied so as to replace the air vitiated by dust or fumes from blasting.

(2) At any mine, every tunnel and development end such as a drive, cross-cut, raise, incline shaft or winze where compressed air is used for the drilling of shot holes, shall be furnished with a water blast approved by the Chief Inspector. Such water blast shall discharge within a distance of not more than fifty feet of the face being advanced and shall be applied so as effectively to wet the face and broken rock for at least fifteen minutes immediately after blasting and again for a further period of fifteen minutes immediately prior to entry by any person, provided that the Chief Inspector may give written permission to the manager to vary these conditions on any mine or part thereof.

*No exposure to foul air.*

**103.** (1) Every reasonable precaution shall be taken that at no time is any person in a mine exposed or likely to be exposed to danger from gas or smoke from any fire and no person shall work or remain or be permitted or ordered to work or remain in any place in a mine if the air contains dust, smoke or fumes perceptible by sight, smell or other senses.

(2) The manager shall -

- (a) provide and cause to be used at every ore-bin, ore-pass or grizzly, unless exempted by the Chief Inspector, a constant supply of clean water which shall be applied during working hours at the opening of such ore-bins, ore-passes and grizzlies by means of efficient atomisers which shall be kept at all times in good working order;

[The word "grizzlies" is misspelt in the *Official Gazette*, as reproduced above.]

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(b) provide and cause to be used in every crushing station and ore treating plant appliances such as suction fans, atomisers and sprays which may be necessary for the effective prevention of dust arising from the operations conducted in such places.

(3) No person shall move any broken rock or ground or cause or allow the same to be moved in a mine if such rock or ground is in a dusty condition, unless and until it has been effectively wetted and kept wet so as to prevent the escape of dust into the air.

*Fires.*

**104.** (1) Whenever an underground fire occurs which cannot be immediately got under control the mine officials in charge shall withdraw all persons from the ventilating district or districts affected by the fire unless the manager directs to the contrary.

(2) The manager shall not permit or direct any person to remain in or proceed to any ventilating district where there is a fire which cannot be got under control, unless and until he has satisfied himself that such person's safety will not be endangered thereby: Provided that this prohibition shall not apply to such persons as are required to get the fire under control, and to control investigations or to do other necessary work.

*Fire Prevention.*

(3) In a mine no person shall place or throw or cause or permit to be placed or thrown any naked light such as a burning candle, unenclosed lamp, cigarette or lighting torch on or near any timber, wooden structure, or other combustible material, where such naked light may cause danger from fire.

*Lighting.*

**105.** (1) Every person in any part of a mine not illuminated by fixed lights shall carry an adequate light.

*Machinery to be illuminated.*

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

*Where and when stationary lights to be provided.*

(3) Adequate stationary lights shall be provided during working hours at all stations, landing and loading places and other similar places in such vertical and inclined shafts, winzes and haulage planes as are for the time being in actual use and, at night, at all working places on the surface.

*Explosives and blasting.*

**106.** (1) The storage, use and transport of explosives on the surface in mining areas shall be governed by the Explosives Ordinance, 1962 (No. 31 of 1962) and the regulations framed thereunder.

*Underground magazines. Permission by Chief Inspector.*

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(2) Whenever permission for the establishment of a magazine cannot be obtained in accordance with section 22 of the said Explosives Ordinance, the Chief Inspector may grant permission for the establishment of underground explosives magazines under such conditions as he may prescribe in each case.

*Lapse of permission.*

(3) Every such permission shall *ipso facto* expire if the holder thereof has ceased to store explosives in the magazine for a period of one year and shall become void if the magazine is used for any purpose other than the storage of explosives.

*Storage of small quantities.*

**107.** For quantities of explosives not exceeding twenty-four hours probable consumption in the mine, the Chief Inspector may sanction the establishment of underground stores subject to such conditions as he may prescribe in writing.

*Cancellation of permission.*

**108.** If at any time after the issue of any permission granted under regulations 106 or 107 the conditions under which it was granted are no longer complied with, the permission may be cancelled by the Chief Inspector and the magazine or sanctioned storage place shall thereupon cease to be used for storing explosives.

*Storage in magazines or stores underground.*

**109.** The following provisions shall apply to the storage of explosives in magazines and stores underground -

*Use of lights.*

(1) No naked light shall be taken into a magazine or store nor shall any light whatever be so taken or fixed in a magazine or store unless approved by the Chief Inspector.

*No smoking.*

(2) No person shall smoke while in a magazine or store nor shall he carry anything which might cause ignition.

*Systematic storing.*

(3) Explosives shall be stored in such system that will ensure that regular turnover is achieved.

*Detonators separate.*

(4) Detonators shall not be kept or stored with any other explosives, safety fuses excepted.

*Cleanliness.*

(5) No scraps or portions of broken cartridges shall be placed in or left lying on the floor of the magazine or store, which shall be kept clean at all times.

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*Person in charge: Duties.*

- (6) (a) Every underground explosive magazine, or store established in terms of regulation 107 shall be in charge of a competent person acquainted with the nature of explosives whose name shall be entered in a book to be called the “Explosives Storage Book” which shall be kept in such magazine or store. Such person shall be responsible for the proper receipt, storing and distribution of the explosives and shall keep full particulars of all receipts and deliveries in the said book.

[There should be a comma after the phrase “or store established in terms of regulation 107” to offset that phrase properly.]

- (b) The person in charge of such magazine or store shall only receive and deliver explosives which are in good order and condition.
- (c) Such person shall not allow explosives to be issued from such magazine or store except upon the written order of an authorised person.
- (d) Such person shall only issue the probable quantity of explosives required for twenty-four hours for each working place.
- (e) Such person shall clearly and accurately record in the Explosives Storage Book the daily delivery of explosives to each ganger.

*Quantity in any one place*

**110.** Except as provided in regulations 106 and 107 not more than one hundred pounds of explosives shall be stored at any one place in a mine.

*Duties of holder of blasting certificate and care of explosives.*

- 111.** (1) The ganger or miner -
- (a) shall keep all explosives other than detonators under his charge in a separate box provided for that purpose, in a dry place at a safe distance from working places and at least fifty feet from other explosives boxes, and shall keep the said box securely locked at all times when he is not actually placing explosives therein or removing them therefrom and shall retain the key or keys thereof on his person;
- (b) shall keep all detonators and capped fuses in a separate box provided for that purpose in a dry place at a safe distance from working places is at least fifty feet from other explosives boxes and shall keep the said box securely locked at all times when he is not actually placing detonators or capped fuses therein or removing them therefrom and shall retain the key or keys thereof on his person;
- (c) shall not place in the said separate boxes any other materials, implements or tools;
- (d) shall not hand the keys of his explosives boxes to any person unless he has been instructed to do so by the shift boss or other official in charge;
- (e) shall use all explosives in the same rotation as they are issued to him and shall not allow pieces of explosive or odd cartridges to accumulate in the explosives box;

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- (f) shall not allow any naked light to be nearer than three feet to explosives under his charge and, when handling explosives, shall not smoke;
- (g) shall convey explosives, other than unopened cases, only in receptacles approved by the Chief Inspector, and provided by the manager;
- (h) shall not use at any working places any explosive which is not supplied to him from the magazine of the mine where he is employed;
- (i) shall not permit any person working under his charge to retain any explosive in his possession or to remove it from the mine to surface, and to be responsible that all reasonable precautions are taken so that the explosives under his charge are not so retained or removed.

(2) No person other than a ganger or miner holding a blasting certificate issued in accordance with these regulations, or official authorised by the manager, shall in any mine whatever open or tamper in any manner whatsoever with any box containing explosives.

[The word "blasting" is misspelt in the *Official Gazette*, as reproduced above.]

*Transport of explosives.*

**112.** (1) Immediately before any person conveys explosives in a shaft by means of machinery he shall give notice to the engine driver, banksman and onsetter.

(2) The engine driver shall gently lower or raise the conveyance containing explosives and no person shall place in or take out of the shaft conveyance any explosives except under the immediate supervision of the person duly authorised thereto by the manager or mine overseer.

*Persons travelling with and delivering explosives: Duty.*

(3) No banksman, onsetter or other person authorised to travel with or distribute explosives shall leave any explosives at any station or other stopping place but shall personally deliver such explosives to the ganger or miner or some person authorised to receive such explosives who shall then be responsible for such explosives.

*Temporary charge.*

(4) No person other than a person authorised thereto by the manager or mine overseer or a person or persons under the direct supervision of such authorised person shall handle, or be caused or permitted to handle or be in charge of any explosives and, no person in whose charge explosives have been lawfully left, shall relinquish such charge until some other authorised person lawfully accepts charge thereof or unless such explosives have been placed in a magazine or store or a box provided for the purpose and such magazine, store or box securely locked.

*Receptacles.*

(5) No person shall convey or cause or permit to be conveyed in or about a mine any explosives other than fuses or fuse igniters unless such explosives are contained in unopened cases or in a receptacle approved by the Chief Inspector.

*Transport of detonators.*

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(6) In no case shall detonators be transported in the same conveyance or carried in the same receptacle with any other explosive, safety fuse excepted: Provided that made up primers may be carried in the receptacle approved by the Chief Inspector in terms of subregulation (5) hereof.

[The word "receptacle" is misspelt in the *Official Gazette*, as reproduced above.]

*Care of lights.*

(7) (a) No person shall carry a light other than an enclosed light while carrying explosives other than safety fuse of fuse igniters unless such explosives are contained in unopened cases.

[The singular term "safety fuse" should be the plural term "safety fuses".]

(b) No person shall in any mine whatever place any light on a box in which there are explosives.

*Smoking.*

(8) No person when handling or carrying explosives or assisting in the preparation of charges in any mine shall smoke.

*Ignitor cord. Use of.*

(9) (a) Where ignitor cord is used in connection with the firing of charges the manager shall prescribe in writing the procedure and arrangements to be followed in laying and connecting the ignitor cord and shall provide the ganger or miner in charge of blasting operations with a copy of such prescriptions.

[The word "igniter" is misspelt in the *Official Gazette* in the subheading above subregulation (9) and in both its uses in paragraph (a), as reproduced above.]

(b) Notwithstanding anything contained in paragraph (a) of this subregulation igniter cord used in the preparation of charges for firing shall be laid as close as practicable to the face and shall not be laid on or in contact with timber or other combustible material or inflammable substance not forming part of the charges.

*Removal.*

**113.** No person shall take away or attempt to take away from a mine any explosives without the written permission of the manager.

*Possession.*

**114.** No person shall secrete or be in possession of explosives in or about a mine except as provided for in these regulations.

*Disposal of explosives on mine closing down.*

**115.** When any mine is closed down all explosives shall be disposed of, and no explosives may be stored on or in any such closed down mine without permission of the Chief Inspector and under such conditions as he may prescribe in writing.



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*Who may blast.*

**116.** (1) No person shall be allowed to conduct blasting operations in or about a mine unless he holds a blasting certificate issued in accordance with the provisions of these regulations or any subsequent amendment thereof.

(2) Upon engagement a miner shall produce his blasting certificate.

(3) The manager of the mine shall retain the blasting certificate of every miner or ganger employed on such mine who holds such certificate until the termination of the employment of such miner or ganger.

*Who may charge holes.*

**117.** (1) No person who is not the holder of a blasting certificate shall charge or be permitted to charge with explosives any drill-hole in a mine.

(2) A ganger or miner who is the holder of a blasting certificate may be assisted in the preparation and firing of charges by reliable persons who are not the holders of blasting certificates: Provided always that he shall not be so assisted unless such persons are acting under his direct supervision: Provided further that he shall take all reasonable measures to prevent any accident occurring through the ignorance, inexperience, or carelessness or any such person.

*Fuse Capping.*

Notwithstanding anything contained in this subregulation no person other than the holder of a blasting certificate shall or shall be caused or permitted to cap a fuse, insert a detonator in a primer cartridge or press home explosives.

*No blasting where inflammable gas.*

(3) No person shall blast or be permitted to blast any hole if inflammable gas is being given off from such hole, nor in any place where there is sufficient inflammable gas present to show a distinct cap on the reduced flame of a safety lamp.

*Extraction from charged hole.*

(4) (a) No person shall extract or attempt to extract explosives from a hole which has once been charged, except that the holder of a blasting certificate may extract such explosives by means of water under adequate pressure applied through a pipe of design and material approved by the Chief Inspector, or where water is not available, by means of a copper scraper similarly approved.

*Blowpipe.*

(b) No person shall take or use underground a blowpipe for any purpose whatsoever unless it be of a design and material approved by the Chief Inspector.

*Deepening hole.*

(5) (a) No person shall deepen or cause or permit to be deepened a hole which has been left standing or any socket, but the provisions of this subregulation shall not be

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taken to prohibit the deepening of any holes which are not finished at the conclusion of a shift and which have not yet been charged with explosives: Provided such holes are clearly described by the ganger or miner in charge of the shift leaving off work, to the ganger, or miner in charge of the shift about to commence work.

*Misfired holes.*

- (b) No person shall deepen or cause or permit to be drilled any hole in any shaft, drive, cross-cut, winze, raise, or other similar confined space where there is a misfired hole until such misfired hole has been again blasted, or until the explosives have been extracted from such misfired hole in accordance with the provisions of subregulation (4)(a) hereof.
- (c) No person shall drill or cause or permit to be drilled any hole within six feet of a misfired hole in a stope.

*Sockets, drilling, precaution in vicinity.*

- (d) No person shall drill or cause or permit to be drilled any hole unless such hole is placed more than six inches from any socket and given such a direction that it will not come nearer to any socket or the line of direction thereof than six inches. Every such socket shall be examined by a miner who shall ascertain its direction and depth and whether it contains explosives, by means of water under adequate pressure applied through a pipe of a design and material approved by the Chief Inspector, where water under pressure is not available, by means of a scraper of a design and material approved by the Chief Inspector.
- (e) No person shall drill a hole in or about a mine unless the exact position and direction of such hole has been pointed out and where possible marked with chalk, paint or other material, by the holder of a blasting certificate or by a person person authorised to do so by the manager, mine overseer or shift boss and no person shall in drilling deviate from the position and direction indicated.

**[Paragraph (e) is amended by AG GN 179/1980. The amendment results in the repetition of the "person", as reproduced above. The verb "has" should be "have" to be grammatically correct.]**

*Removal of plug.*

- (6) No person other than the holder of a blasting certificate shall remove or attempt to remove the wooden plug with which a misfired hole or socket of a hole has been plugged: Provided that when the miner charges up at the end of the shift he may instruct a member of his gang to do so.

*Washing over before drilling.*

- (7) (a) Before drilling is commenced in any shaft in the course of sinking, the miner or ganger, who shall be the holder of a blasting certificate, shall thoroughly wash over all the ground within three (3) feet of any hole to be drilled with water under a pressure of not less than 30 lb. per square inch, or, if the ground to be examined is under water, blow over with compressed air, so as to expose the presence of all misfires and sockets, and shall make a sketch showing the position of such misfires and sockets.

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- (b) In vertical shafts, washing or blowing over and the preparation of the sketch shall be done under the immediate supervision of the manager or mine overseer or of a shift boss or other duly appointed official, unless exempted by the Chief Inspector, and in incline shafts such official shall satisfy himself by personal inspection during the shift that the blowing over and the sketch have been properly done.

Every sketch made in terms of subregulation (a) of this regulation shall be kept in the mine office for at least seven days.

*Where gas is present.*

**118.** The ganger or miner -

- (1) shall not blast in any mine where inflammable gas has been reported to be present during the past twenty-four hours in the ventilating district in which the shot is to be fired, until he has examined the place where gas has been reported to be present and has found that such gas has been sufficiently cleared away and that there is not at or near such place sufficient gas issuing or accumulated to render it unsafe to fire the shot;

*Examination for misfires.*

- (2) shall before marking off holes with chalk or other material or before otherwise indicating to the drillers working under him the positions of the holes to be drilled, removed or cause to be removed all loose or loosened rock, mineral or ground from the face and immediate vicinity of the working place, and shall carefully examine such face and its immediate vicinity with a view to discovering misfired holes and sockets of holes;

*Plugging of misfires, etc.*

- (3) shall before indicating or marking the position of each hole to be drilled plug all misfired holes and sockets of holes with wooden plugs within a distance of at least six feet from the point to be indicated or marked, and no such plug shall be again, removed until he commences to charge the drill holes at the end of the shift except temporarily for the purpose of inspection: Provided that for the purposes of this subregulation the ganger may be assisted in this work by persons working under his immediate supervision;
- (4) shall keep on hand a sufficient supply of wooden plugs for the purpose of complying with the provisions of subregulation (3);

*Position and direction of hole.*

- (5) shall point out to each driller working under him and wherever possible, clearly mark with chalk, paint or other material the exact position and direction of any hole to be drilled, and shall report not later than the end of the shift to the shift boss, or other responsible official if there is no shift boss in his section of the mine, any person drilling a hole not so indicated or deviating from the position or direction indicated;
- (6) shall acquaint every person working under him of the danger attending a contravention of regulations 114, 117 and 118;

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- (7) shall use no explosives except in the form of cartridges, and shall not, except in the case of primer cartridges, remove or interfere with the wrappers round explosives; and shall not break or cut any blasting cartridge;

*Time for charging up.*

- (8) shall not charge up until within a reasonable time of blasting and until all persons not required to assist him in the charging up have removed to a distance of at least fifteen feet;

*Preparation of charge.*

- (9) shall shake all the sawdust out of the detonator and shall attach the fuse to the detonator by means of a properly designed pliers or other instrument so as to prevent the entrance of water into the detonator; and

shall not when blasting with dynamite or other high explosives insert the fuse with the attached detonator in the so-called primer cartridge except shortly before use;

- (10) shall in making up a charge after the fuse with attached detonator has been inserted in the primer cartridge securely fasten it to the said cartridge by means of a string or other suitable material, so that the fuse and detonator cannot be inadvertently withdrawn, and shall not insert any other detonator into the explosives or into the hole except the one attached to the fuse: Provided that in wet workings two fuses and detonators may be used but they must be inserted into the same primer cartridge and tied as prescribed herein;

*Tools.*

- (11) shall not in charging or in stemming holes for blasting use any implement other than of wood, brass or copper;
- (12) shall not forcibly press any explosive into a hole of insufficient size and shall not hit, ram or forcibly press any explosive into any hole;

*All holes to be tamped.*

- (13) (a) shall not fire a charge of explosives and no person shall be caused or permitted to fire such a charge, unless the explosives are contained in a shot hole properly tamped with non-inflammable material; except when firing charges which are not contained in blast holes when precautions laid down by the manager must be observed;

*Tamping materials.*

- (b) shall use as tamping for charges of dynamite or other high explosive only such materials as are supplied or approved for that purpose by the manager, and no tamping material or other non-explosive material shall be inserted between cartridges: Provided that in the special circumstances only when an instantaneous detonating fuse is being used on the instruction of the manager, tamping may be inserted between portions of the explosives charge in a shot hole, if all reasonable precautions are taken to ensure that every portion of such charge will be in contact with such fuse;

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*Warning before firing.*

- (14) shall before firing charges, give or cause to be given due warning in every direction by shouting "Fire" and he shall satisfy himself that no person, except those required to assist him in firing charges remains where he might be exposed to danger from the firing of such charges and shall take all reasonable precautions to safeguard those assisting him from accident due to blasting operations;

*Entrances to be guarded.*

- (15) shall before firing charges cause all entrances to the place or places where such charges are to be fired, or where the safety of persons may be endangered to be guarded so as to prevent inadvertent access to such place or places, whilst such charges are being fired;

[The word "places" is misspelt in the *Official Gazette*, as reproduced above.]

*Lighting torch.*

- (16) shall only use lighting torches supplied by the manager and approved by the Chief Inspector;

*Counting of shots. Time to expire before re-entering.*

- (17) shall, except in the case of firing by means of electricity, count in conjunction with at least one other person the number of shots exploding, and unless both he and such other person are certain that all the shots have exploded shall not enter nor allow any person to enter the place or places in which the shots have been fired, until the expiry of thirty minutes from the time of lighting the fuses: Provided that when misfires are, reblasted no person shall enter the working place until the expiry of thirty minutes from the time of lighting the fuses;

*Reports of misfires, etc.*

- (18) shall at the change of shift forthwith report any misfires and any other matter requiring attention to his shift boss or the mine overseer and to the ganger or miner in charge of the next following shift;

*Firing by electricity.*

- (19) (a) shall when the firing takes place by means of electricity, keep the shot-exploder or, where a shot-exploder is not used, the terminals and firing switch of any other source of electricity for firing shots in a locked box and shall then contain the handle of the shot-exploder and the key of such box on his person during the charging, connecting and testing of any shot or shots;
- (b) shall not connect the firing cable to the terminals of the shot exploding machine or any other source of electricity for firing shots until immediately before the shot or shots are to be fired;
- (c) shall not, once the firing cable has been connected to any shot or shots, enter or allow any person to enter the place or places where the cable has been

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connected to such shots, irrespective whether the shot or shots have exploded or not, unless he has disconnected entirely the cable from the terminals of the shot exploding machine or other source of electricity for firing shots;

- (d) shall not test for continuity any electrical circuit that includes any electric detonator except through the firing cable and from a place of safety;
- (e) shall after firing charges by electricity carefully examine the place or places where the charges have been fired for misfires, before permitting persons to work therein, and shall instruct the persons engaged in clearing broken ground to report immediately the firing of any wires that may lead to a misfired charge, and should such wires be found he shall cause all work in such place to cease until any misfired charge has been dealt with in accordance with these regulations;

*No re-entry until fumes dissipated.*

- (20) shall not after firing has taken place whether by electricity or in any other manner enter or allow any person to enter the place in which such firing has occurred until the fumes, caused by the explosion shall have been dissipated and the air is free from dust, smoke and fumes perceptible by sight, smell or other senses, and until he has examined such place and made it safe;

*Blasting at a time to be fixed by the manager. Blasting misfires.*

- (21) shall in any mine only blast at a time to be fixed by the manager, except for removing obstructions in ore-passes or box-holes, or for the purpose of making the hanging safe, or for blasting misfired holes in development faces, and then only with the permission in each case of the manager, mine overseer, or shift boss: Provided that when blasting misfires, he shall observe the precautions prescribed in subregulations (17) and (20) hereof. No such permission shall be given unless reasonable precautions have been taken to prevent any person being exposed to smoke and fumes from such blasting;

*Withdrawal of tamping.*

- (22) except as provided in regulation 117(4) shall not withdraw the tamping from a hole that has once been charged, but he may withdraw the tamping to allow of a missed shot being reblasted;

[The phrase “to allow of” may have been intended to be “to allow for”.]

*Use of Waterblast.*

- (23) shall, in all development faces where in terms of regulation 102(2) a water blast has been provided, immediately after lighting up put into action the water blast which he shall previously have tested: Provided that if such test shows that the water blast is not in proper working order, no blasting shall take place;

*Quarries and trenches.*

- (24) shall, in addition to other regulations in so far as they are applicable, observe the following provisions in quarries, trenches and other open cast workings;

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*Precaution – Thunderstorm.*

- (a) where firing takes place by means of electricity, operations in connection with the preparation or firing of explosives charges shall not be started or continued on the approach of or during a thunderstorm and no person shall remain or be caused or permitted to remain within an area where he may be injured by the accidental detonation of explosives;

*Where more than one miner charges holes.*

- (b) where more than one ganger or miner are engaged in charging holes they shall not charge holes simultaneously within twenty feet of one another and while the charging of holes is in progress, the explosives receptacles of one ganger or miner shall not be nearer than twenty feet to those of any other ganger or miner;

*Only those engaged to be in vicinity.*

- (c) no person, not assisting in the charging of holes, shall remain or approach or be caused or permitted to remain or approach within fifty feet of any hole that is being charged;

*When explosives brought to working place.*

- (d) explosives shall not be brought to a working place where blasting is to be carried out until the holes are ready to be charged and the quantity shall not exceed the estimated requirements;

*Explosives at one hole.*

- (e) not more than seventy-five pounds of blasting cartridges and one reel of detonating fuse shall at any one time be at a hole being charged;

*Shot holes deeper than ten feet.*

- (f) in any shot hole deeper than ten feet, the charge shall be primed by means of detonating fuse which shall extend to the bottom of the charge and be of a length sufficient to extend at least six inches outside the hole. Immediately after the detonating fuse has been placed in the hole, the required length of such fuse shall be cut off from the reel. The detonator or detonators required for setting off the blast shall not be brought to the working place until all such shot holes have been charged;

*Distance from buildings.*

- (g) except with the written permission of the Chief Inspector not more than one shot hole at a time shall be fired within five hundred yards of any building, public thoroughfare, railway, powerline or any place where people congregate;

*Precautions before firing.*

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- (h) (i) before any charge is fired the ganger or miner shall take adequate measures to prevent injury to persons and damage to property by blasting operations;
- (ii) at least three minutes before a charge is fired the ganger or miner shall give due warning of the firing and shall station a competent person, carrying a red flag, at a safe distance at each avenue of approach to the place where the charges are about to be fired. Such person shall give warning of the firing and shall remain at his station until the firing is completed and he is recalled by the ganger or miner;
- (iii) no person so warned shall remain in, or enter the unsafe area surrounding the place where the firing is to take place;

*Personal examination by ganger.*

- (i) after the charges have been fired the ganger or miner shall personally make an examination of the working place for misfires, sockets and dangerous ground and until he has done so and has made the place safe, no person except those necessary to assist him in making safe shall enter or approach or be caused or permitted to enter or approach such place.

*Misfired holes: Surface mining.*

- (25) shall in the case of misfired holes in trenches, quarries and opencast workings deal with the misfires as follows: -
  - (a) withdraw the tamping from the misfired hole by means of a scraper of design and material approved by the Chief Inspector. Place a fresh primer in contact with the charge and refire the charge; or
  - (b) drill or cause to be drilled in his presence a relieving hole not less than six inches deeper than the misfired hole and so drilled that it will be parallel to and not nearer than three feet to it. He shall charge and fire this relieving hole and recover the explosives liberated from the misfired hole; or
  - (c) extract the explosives from the misfired hole in accordance with the provisions of regulation 117(4)(a).

*Mine plans.*

**119.** As required by the Chief Inspector the following plans or as many as may be specified by him shall be kept in the office of every mine: -

*Claim and mining area plan.*

(1) A plan or true copy thereof on tracing cloth of the property appertaining to the mine showing the boundaries, name and number of each mining area and the boundaries and registered number of each claim and of the farms and subdivisions of farms on which the holdings are situated with the names of such farms or subdivisions of farms and the names of the owners, also the sides, angles and co-ordinates of the mining areas as shown on the mining area diagrams and the co-ordinates of the mining area beacons referred to the same axis and origin as the co-ordinates of the farm beacons.



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This plan shall be drawn to the same scale as the general surface plan mentioned in subregulation (2) hereof, and shall at all times be correct to within at most six months from date.

*Surface plan.*

(2) A general surface plan or true copy thereof on tracing cloth of the property appertaining to the mine showing the boundaries of the various holdings, names of farms, the outcrops and dip of the reef or reefs or other mineral or deposits, all open surface workings, shaft openings, boreholes, buildings, watercourses, reservoirs, tailings sites, dumps, public roads, railways, airfields, permanent tramways, electric power lines, public telegraph and telephone lines, cable ways, main pipe lines, fences and all surface objects which it is needful to protect against undermining.

In the case of properties whose boundaries are too extended to be shown on a plan of a convenient size it shall be necessary to show only that portion of the property on which the surface equipment is situated, leaving a reasonable margin for extension, and in such cases a key plan on any convenient scale shall also be made showing all the property and the principal surface objects.

This plan shall at all times be correct to within at most one year from date.

*Underground plan.*

(3) An underground plan or true copy thereof on tracing cloth showing clearly the boundaries of the ground over which the undermining rights are held where such boundaries can be shown on a plan of convenient size; also all shafts, drives, winzes, raises, cross-cuts, stopes, safety pillars, permanent packs, stations, underground explosives magazines, spurs or leaders that are being exploited, faults, dykes, and important changes in the dip of the reef, lode or mineral bed.

*Base metal mine plans.*

In the case of properties where the boundaries of the ground on which the undermining rights are held are too extended to be shown on a plan of a convenient size, it shall be necessary to show only that portion of the property on which the underground workings exist, leaving a reasonable margin for the extension of the workings to be shown.

Where different reefs or mineral deposits overlie the one or the other, the workings on each reef or mineral deposit shall be shown on a separate plan when so required by the Chief Inspector.

This plan shall at all times be correct to within at most three months from date.

(4) In the case when the plan mentioned in subregulation (3) hereof is not on the same scale as the general surface plan, a general underground plan or true copy thereof on tracing cloth similar to the one mentioned in subregulation (3) hereof but drawn to the same scale as the general surface plan mentioned in subregulation (2) hereof, and omitting minor details.

This plan shall at all times be correct to within at most six months from date.

*Plan of transverse sections of workings.*

(5) A plan or true copy thereof on tracing cloth showing the transverse section or sections of the workings drawn through the shaft or shafts and main adits of the property and indicating clearly the surface and the dip of the strata and reef and any dislocation of strata, intrusive rock, etc.

This plan shall at all times be correct to within at most one year from date.

*Plan of vertical projection of workings.*

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(6) Where the reef has an average dip of more than sixty degrees a plan or true copy thereof on tracing cloth, showing a vertical projection of the mine workings.

This plan shall at all times be correct to within at most three months from date.

*Scale of Plans.*

(7) The plans provided in subregulations (1), (2) and (4) hereof shall be laid down on a scale of either one in five hundred, one in one thousand, one in one thousand live hundred, one in two thousand, one in two thousand five hundred, or one in three thousand and the underground plans provided for in subregulations (3), (5) and (6) hereof on a scale of one in five hundred or one in one thousand.

*Plans of big properties.*

(8) In the event of a property held under mining title being so large that the plans required under this regulation if made on single sheets, would be of an unwieldy size, mine managers may in their discretion construct the plans in sections: Provided that any sections of the plans made under subregulations (1), (2) and (4) hereof shall have the same corresponding boundaries and a key plan of all the sections be made on each section on any convenient scale.

(9) In the event of a portion of the property consisting of accessory works being situated at some distance from that portion of the property held under mining title or as claims, it shall be sufficient to show any such accessory works on a key plan of the whole property to any convenient scale.

[There appears to be a word missing after the phrase "In the event of", such as "that" or "the".]

*Exemptions.*

**120.** In mines where less than two hundred workmen on an average are employed underground the Chief Inspector shall be authorised with respect to the plans required under regulation 119 to grant exemption according to the circumstances.

*Measurements.*

**121.** In all mine surveys measurements shall be made either in metres and decimals of a metre or in English feet and decimals of a foot.

*Co-ordinates.*

**122.** The co-ordinates of the surface and underground surveys shall be referred, where practicable, to the same axes as the co-ordinates of the farm survey on which the property is situated.

The co-ordinates of the farm beacons are obtainable from the Surveyor-General.

*Inconsistent co-ordinates.*

**123.** Where the mining property includes two or more mining area diagrams, the co-ordinates of which are numerically inconsistent, the matter shall be brought to the notice of the Chief Inspector before the plans are proceeded with.

*Bench mark.*

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**124.** (1) On all mining properties a permanent bench mark shall be established; should there be no suitable stone structure one shall be built for this purpose.

A full description of this bench-mark, together with its height above mean sea-level and depth below datum, plane, shall be given on the plans required in terms of subregulations (3), (4), (5) and (6) of regulation 119.

*Datum plane.*

(2) All levels taken above and below ground shall be referred to a plane above this bench mark; the height of this plane shall be fixed in each district by the Chief Inspector and all elevations shall be stated either in metres and decimals of a metre or in feet and decimals of a foot below the plane.

*Copies to Chief Inspector.*

**125.** Mine managers shall deposit with the Chief Inspector true copies on tracing cloth of the plans referred to in regulation 119.

The copy of the plan kept in accordance with subregulation (2) of regulation 119 shall be brought up to date once every year by the manager and delivered to the Chief Inspector not later than the 1st day of June each year, and the copies of the plans mentioned in subregulations (1), (3), (4), (5) and (6) of regulation 119 shall be brought up to date once every six months by the manager and delivered to the Chief Inspector not later than the first day of December and the first day of June each year.

For this purpose the Chief Inspector shall, at the written request of the manager, return to him such copies at any time subsequent to first September and first March respectively.

*Plans confidential.*

**126.** No copies of the plans referred to in this part or any information concerning them shall be given by the office of the Chief Inspector to any unauthorised person, nor shall such plans be open to inspection by any such person without the permission of the mine manager.

*Underground plans, etc., on closing.*

**127.** (1) Before a mine or any part of a mine is abandoned or closed down or rendered inaccessible all underground plans shall be brought up to date and the copies referred to in regulation 125 shall be handed in to the Chief Inspector.

(2) When a mine is closed down the calculation books and survey note books shall be handed in to the Chief Inspector.

*Penalty on breach.*

**128.** The manager or owner of a mine who fails to keep plans as prescribed in the regulations or neglects to deposit with the Chief Inspector within the prescribed periods true copies of such plans in accordance with these regulations shall be liable on conviction to a fine not exceeding one hundred and fifty rand or in default of payment to imprisonment for a period not exceeding six months: The Chief Inspector shall in his discretion have power to cause such plan or plans of the mine to be made at the expense of the owner of the mine.

*Penalty for withholding or concealing plans. Faulty plans.*

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**129.** The manager of a mine who withholds any portion of a mine plan or conceals any part of the workings or knowingly and wilfully allows these mine plans to be or remain incorrect, shall be liable on conviction to a fine not exceeding three hundred rand or in default of payment to imprisonment for a period not exceeding one year.

[The word "default" is misspelt in the *Official Gazette*, as reproduced above.]

*Limits of error.*

**130.** (1) The following shall be the limits of error allowable in a survey made in compliance with regulation 119 and in the plans constructed as the result of such surveys: -

- (a) the length of the line joining the positions of any given point as determined by the beginning and closing of a traverse shall not exceed 1/1,000th of the sum of the lines used in such traverse;
- (b) The error in length between any two points of a traverse measured along the traverse or its representation on plan shall not exceed 1/1,000th of the true length;
- (c) the error in the measurement of a line between any two consecutive points of a traverse or its representation on plan shall not exceed 1/1,000th of its true length, nor shall the error of the measurement of its direction in reference to the axes of co-ordinates exceed four minutes of arc;
- (d) the error in level between any two points shall not exceed 1/2,000th of the length between them;
- (e) in special measurements that have for their object the fixing of the positions of shafts to be sunk and the establishment of connections, the allowable error shall not exceed half of the limits of error given above;
- (f) the error in the position of any point represented on the plan other than a station of a traverse, shall not amount to more than five feet in addition to the above allowable error at the nearest travel point;
- (g) where the difficulties incidental to the accurate representation of any workings on a plan are such, that the surveyor cannot accept responsibility for their accuracy within the limits laid down in his regulation, such workings shall be indicated by dotted lines of a suitable colour.

*Check survey.*

(2) The Chief Inspector may in any case where he deems it necessary cause a check survey to be made by a surveyor.

*Cost.*

(3) The cost of such survey shall be borne by the owner of the mine where it is proved that any error in the surveyor in the plans constructed as the result of the survey exceeds the above-mentioned limits of error.

*Ventilation signs.*

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**131.** As soon as the direction of any air currents or the position of any ventilating appliances can be considered as permanent, they shall be shown in ink on the plans and sections referred to in subregulation (3) of regulation 119, but until such time they shall be shown in pencil.

*Returns from mines and works for statistical purposes. Monthly return.*

**132.** (1) Every mine owner, agent or manager and every prospector shall forward monthly to the office of the Chief Inspector complete and correct returns for the preceding month of the work accomplished during that month, the workmen employed, the wages paid, the results obtained and the value and quantity of the ore exported or sold.

(2) Every person in the Territory who as principal or agent purchases from any prospector or mine owner any minerals produced in the Territory and every person in the Territory who exports such minerals shall forward monthly to the office of the Chief Inspector complete and correct returns for the preceding month showing the quantity of minerals purchased, the prices paid and the value, quantity and destination of the ore exported or sold.

(3) The returns referred to in subregulations (1) and (2) hereof shall reach the office of the Chief Inspector not later than the fifteenth of the month and must be written intelligibly in such forms as may from time to time be prescribed for that purpose by the Chief Inspector.

(4) Persons who, in terms of the preceding subregulations hereof have to make monthly returns, may obtain the necessary forms for one or more months in advance at the office of the Chief Inspector, either by personal application or on written request.

(5) Persons required in terms of the foregoing subregulations hereof to make the returns therein specified shall also provide the Chief Inspector, at his request, with such other returns and data as may in the opinion of the Chief Inspector be reasonably required: Provided that such other returns and data shall be furnished on or before a date to be fixed by the Chief Inspector in such form as he may require or prescribe.

*Balance sheet: Liquidator's Report.*

**133.** The owner, agent or local representative of every mining concern or company holding mining property shall file with the Chief Inspector immediately on publication a copy of each yearly report, including the balance sheet and profit and loss account, issued by the directors of such concern, and also a copy of the liquidator's reports on liquidation.

*Information concerning boreholes for prospecting for coal, torbanite, oil shale and oil.*

**134.** (1) Every person intending to sink a borehole or to carry out other prospecting work for the purpose of prospecting for coal, torbanite, oil-shale or oil shall before commencing operations give notice of his intention to do so to the Chief Inspector and every person sinking a borehole or carrying out other prospecting work for the said purpose shall supply to the Chief Inspector such information and records regarding the borehole or other prospecting work in such manner and at such time as the Chief Inspector may require.

(2) Every person who has sunk a borehole for the purpose of prospecting for coal, torbanite, oil-shale or oil prior to the date of coming into force of these regulations shall supply to the Chief Inspector such available records regarding the borehole in such manner and at such times as the Chief Inspector may require.

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(3) Within one year after the date of completion of the borehole or commencement of other prospecting work for the purpose of prospecting for coal, torbanite, oil-shale or oil, the prospector shall supply through the office of the Chief Inspector all information and records concerning his prospecting work to the Fuel Research Institute of South Africa.

*Penalty.*

**135.** Any of the persons mentioned in regulation 132 and in regulation 134 who fails to render returns on the date specified or sends in returns, information or data which are false, incomplete, defective or unintelligible shall be liable on conviction to a fine not exceeding one hundred and fifty rand or in default of payment to imprisonment for a period not exceeding two months.

*Oath as to accuracy.*

**136.** The Chief Inspector may require that the accuracy of the returns or records mentioned in regulations 132 and 134 be verified on oath.

*Penalty - False returns.*

**137.** Anyone who sends in false statements, knowing the same to be false, or who fails when requested to verify the accuracy of the returns as provided in the preceding regulations shall be liable on conviction to a fine not exceeding three hundred hand or in default of payment to imprisonment for a period not exceeding four months.

[The word "rand" is misspelt in the *Official Gazette*, as reproduced above.]

*Workmen change houses.*

**138.** (1) (a) At all main travelling shafts or main adits, except where exemption is granted by the Chief Inspector, suitable change house accommodation proportionate in size to the number of miners employed shall be provided together with adequate facilities for bathing and for changing and drying of clothing, and with adequate latrine accommodation.

*Duty to change clothing.*

(b) Every miner employed underground when coming off shift shall change his clothing in such change house, and no person shall use any engine house or boiler house for this purpose.

*Lockers.*

(c) Lockers, cupboards, or chains, or other suitable appliances approved by the Chief Inspector, capable of being locked, shall be provided in every such change house, and shall be sufficient to enable every miner to store his clothes separately.

(2) (a) At each shaft-head or change house the manager shall provide a record book in which persons may enter any complaints which they wish to bring to his notice. Such record book shall be inspected and initialled daily by the mine overseer, or if there is no mine overseer, by the manager, and any mine overseer or manager as the case may be who fails or neglects to inspect and initial such complaint record book shall be guilty of an offence.

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- (b) Any defect in any appliances provided for the safety or health of persons working underground shall be recorded in the record book by the employee having knowledge of such defect, immediately on coming off shift.  
 Any person who fails or neglects to comply with the provisions of this subregulation shall be guilty of an offence.
- (c) Any person who has knowledge of fumes in the workings during working hours or of defective ventilation or of any other condition or conditions prejudicial to health or safety shall similarly record the matter without delay in the record book, and any person who fails or neglects to comply with the provisions of this subregulation shall be guilty of an offence.
- (d) A verbal report of any such defect or defective conditions shall be made to a shift boss or other official where practicable and especially in cases of immediate necessity, but such verbal report shall not be deemed sufficient notice of such defects or conditions.
- (e) No person shall tamper with or damage the record book.
- (f) A copy of this regulation shall be kept posted in a place near where the record book is kept.

[Regulation 138 is amended by AG GN 179/1980, with the amendments to this regulation coming into force six months after the date of publication of AG GN 179/1980.]

*Record of employees.*

**139.** (1) A record shall be kept in the office of every mine or works of all persons, employed in and about the mine or works, and of their places of residence.

(2) Every person employed in or about a mine or works shall communicate the correct address of his place of residence to the manager and shall forthwith notify the manager of any change in such address.

[subregulation (2) amended by AG GN 179/1980]

*Wages not to be paid at or within bars, etc.*

**140.** No wages shall be paid at or within any hotel, bar, canteen, or place where spirits or fermented liquor is sold, to any person employed in or about a mine or works.

*Persons in state of intoxication in mines or works.*

**141.** (1) No person in a state of intoxication or in any other condition which may render or be likely to render him incapable of taking care of himself or of persons under his charge, shall be allowed to enter a mine or to be in the proximity of any working place on the surface or near to any machinery in motion, and any person who may have entered a mine or works or be found at any working place above or below ground in a state of intoxication may be immediately arrested by the manager or some person duly appointed by him and immediately handed over to the Police, and such person shall be deemed to be guilty of an offence against this regulation.

*Possession of intoxicating liquor in mines or works.*

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(2) No intoxicating liquor shall be taken by any person into the workings of any mine or works or to any place of work, unless with the special permission of the manager, and no workman shall have intoxicating liquor in his possession whilst at work or at a place of work.

*Workmen not to be kept waiting.*

**142.** (1) At the end of the shift, every person on that shift shall be brought to the surface as soon as possible, and shall not be kept waiting unnecessarily at the shaft station or elsewhere.

*Marking of time tickets.*

(2) Time tickets of persons who work under the supervision of a ganger and are employed underground shall either be marked underground, or, where this is impracticable, in a shelter-room at the surface.

[subregulation (2) amended by AG GN 179/1980]

*Exemption where regulations inapplicable.*

**143.** Whenever the circumstances at any mine or works are such as to render any provision of these regulations inapplicable or unduly onerous in such mine or works, or whenever it is necessary for the purpose of carrying out experiments or tests as to the expediency of any regulation, the Chief Inspector may grant exemption from such provision under such conditions as he may determine.

*Manager responsible where no particular person is herein made responsible.*

**144.** Where in any of these regulations no particular person is referred to as being responsible for compliance with the requirements thereof, and no person has been made so responsible under the provisions of section 12 of the Mines, Works and Minerals Ordinance 1968, or any amendment thereof, the manager, or any person appointed in writing to act as manager, shall, subject to the provisions of regulation 146(2) be deemed to be so responsible.

*Disobedience.*

**145.** Any person who fails to obey any order given to him in accordance with or for the proper observance of the requirements of these regulations, or any order whatsoever given in the interests of safety or health; by person lawfully authorised to give such order, shall be guilty of a contravention of these regulations.

*Compliance with regulations - freedom from liability.*

**146.** (1) No person shall be precluded by any agreement from doing, or be liable under any contract in damages for doing, such acts as may be necessary in order to comply with the provisions of these regulations.

(2) Any person through whose neglect or wrongful act a contravention of any of these regulations shall occur or who permits, incites, instigates, commands or procures any person to contravene any of these regulations shall be deemed to be guilty of such contravention, without prejudice to any responsibility or liability on the part of the manager or of any other person.

*Contractor.*



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147. At every mine it shall be a condition of the agreement between the manager of the mine and every contractor employed in or about the mine that the said manager shall have supervision and control of all the work carried out by the said contractor, and in respect of such work shall be deemed to be the manager appointed by such contractor, unless the said contractor, with the consent in writing of the Chief Inspector and of the owner, a contractor, or manager, from whom the contract is taken, shall himself appoint and register with the Chief Inspector, a manager, approved by the Chief Inspector, to have charge of the work.

*Chief Inspector may remove samples.*

148. The Chief Inspector shall have the right to take, or cause to be taken, samples of ore of other minerals from such reefs, beds or deposits, or from the minerals extracted as he, in the execution of his duty, may deem necessary.

*Unlawful disturbance of sea birds.*

149. (1) No person other than the claim holder, mine owner, or grantee concerned, or the employee of such claim holder, mine owner or grantee shall approach or land on any guano island or on any platform or other construction erected on a claim, mining area or on an area covered by a special grant issued under section 61 or 62 of the ordinance for the purpose of collecting guano therefrom, without having first obtained the written consent of such claim holder, mine owner or grantee.

(2) No person shall discharge any firearm within the boundaries of any claim, mining area or area covered by a special grant which has been pegged, converted or granted for the purpose of winning guano from such place, or commit any wilful act therein which will disturb the sea birds resting or nesting on such place.

*Notices for treatment of gassing.*

150. One or more notices on which are legibly printed simple directions setting forth the approved procedure for the immediate treatment of cases of gassing shall be posted in a conspicuous place in every change-house, recreation room and accident emergency station on or in a mine.

*Sanitation - pollution of workings.*

[The word "pollution" is misspelt in the heading in the *Official Gazette*, as reproduced above.]

151. No person shall pollute the underground workings with faeces or urine, nor wantonly misuse or foul the latrines.

*Sand-filling - cyanide content.*

152. When tailings are used for filling worked-out areas underground the moisture contained in such tailings and the liquid draining off therefrom shall not have a higher cyanide content than .005 per cent expressed as cyanide of potassium.

*Stagnant water.*

153. Stagnant water shall not be allowed to remain on the floors of any levels which are in use.

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*Safety precautions not to be damaged or removed, etc.*

**154.** No person shall damage or render ineffective anything which has been provided for the protection of underground works or of the surface, or for the safety or health of the workmen, nor shall any person alter, remove or in any way interfere with or render ineffective any arrangement in or about a mine or works provided for any of the before-mentioned purposes, unless duly authorised thereto by the manager or mine overseer: Provided however, that in the case of a mine which is closed down, such authorization must be obtained from the Chief Inspector.

*Deputing of work.*

**155.** No person shall depute any other person to do his work without the sanction of his official superior; nor shall any person, operating machinery, leave such machinery or cease to supervise persons under his charge, without such sanction.

*No admittance to machinery, etc., sheds.*

**156.** No unauthorized person shall enter a mine or works or any shaft, shed, place or building where machinery or steam boilers have been erected and notices to this effect shall be posted up by the manager in both official languages at all entrances to such places.

*Posting up of regulations.*

**157. (1)** For the purpose of making known the provisions of these regulations to all persons employed in and about a mine or works, an authorized extract of the portions of these regulations, directly concerning the workmen, shall be posted up in suitable places at the mine or works, where it can be conveniently read, and a correct copy of these regulations or of such extract shall be supplied at cost price to every employee (except to the illiterate persons contemplated in regulation 158) when engaged by the manager or his representative unless he is already in possession of same.

Every extract posted up shall be in both official languages and in such other languages as the Minister may prescribe.

**[subregulation (1) amended by RSA Proclamation R.89/1969]**

*Renewal of notices.*

**(2)** As often as the posted notices or copies become defaced, obliterated or destroyed, they shall be renewed with all reasonable despatch.

*Penalty for interfering with notices.*

**(3)** Any person pulling down or otherwise defacing the before-mentioned notices or copies, when so posted up, shall be guilty of an offence and on conviction be liable to a fine not exceeding thirty rand, or in default of payment to imprisonment for a period not exceeding thirty days.

*Instruction of workmen in regulations.*

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**158.** Where any workman is unable to read the regulations, the person in charge shall see that such workman is made acquainted with all the regulations concerning him or appertaining to his particular occupation and duties.

[regulation 158 amended by AG GN 179/1980]

*Liability under other laws.*

**159.** Nothing in these regulations contained shall prevent any person from being prosecuted under any other law in force in the Territory.

*Ignorance of regulations shall not exonerate responsible person.*

**160.** Ignorance of the provisions of these regulations or any portion of them on the part of the owner, manager or responsible person concerned on any mine or works, shall not in any way exonerate him from any responsibility in respect of any contravention of these regulations or any portion of them.

PART III

MACHINERY

*Responsibility and duties, supervision – machinery.*

**161.** (1) The persons who, in terms of regulation 38 are in general charge of machinery shall at all times ensure that all safety appliances, devices and guards are maintained in good working condition and properly used, and shall stop the working of any apparatus or machine, the using of which, due to any defect, is in any way dangerous to persons: Provided that such persons need continuously upon the premises while machinery is being worked if they have satisfied themselves before leaving the premises, that danger to persons is not likely to develop during their absence and if in respect of the periods during which they are not so present their duties under this subregulation are deputed by them to specified competent persons or shiftmen.

(2) No user shall require or permit any machinery to be operated or attended to by any person (other than a competent person or a shiftman), who is not under the general supervision of a competent person who is present on the premises at all times when the machinery is in operation.

(3) No person operating any machinery, which for the avoidance of accidents requires constant attention, shall for any reason absent himself or cease to attend to such machinery while it is working during the periods he is responsible for the working of such machinery, unless he is replaced.

*Duties of users.*

**162.** Every user shall: -

- (a) take all reasonable measures to enforce the requirements of these regulations and to ensure that they are observed by every person working on premises where machinery is used;
- (b) appoint such persons as may be necessary to assist him in enforcing observance of the regulations;

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- (c) provide for the safety and proper discipline of the persons working on the premises;
- (d) cause every inexperienced person called upon to operate a machine, which is liable to cause injury, to be fully instructed as to the dangers likely to arise from its operation and the precautions to be observed;
- (e) cause all plant, material, and other things necessary for compliance with the requirements of these regulations to be provided and maintained in good order and repair;
- (f) cause all buildings, structures, appliances, and machinery to be maintained in good order and repair and in a safe condition.

*Condition of safety appliances and machinery.*

**163.** Every user shall cause all safety appliances, devices or guards to be maintained in good working condition and properly used, and shall stop the working of any machinery, the using of which becomes or which appears likely to be dangerous to persons in the vicinity thereof.

*Obedience to orders.*

**164.** Any person on premises where machinery is used shall carry out any orders given to him by the user, or by persons authorised by the user, in accordance with, or for the proper observance of the provisions of these regulations, or in the interests of safety.

*Reports to persons in charge.*

**165.** A person working on premises where machinery is used shall forthwith report to the user anything which comes to his notice which is liable to cause danger to persons or accident to machinery.

*Copies and abstracts of regulations - notices.*

*Destruction of notices – penalty.*

**166.** The user shall have in his possession a printed copy of these regulations. For the purpose of making known the provisions of these regulations to all persons employed on or about machinery, an authorised abstract of the portions of these regulations directly concerning the workmen shall be posted up in suitable places on the premises of the user where it can be conveniently read, and a copy of the regulations or of such abstract shall be supplied at cost price to every employee in charge of machinery when engaged by the user or his representative, unless he is already in possession of the same. As often as the posted copies become defaced, obliterated or destroyed, they shall be renewed with all reasonable despatch. Any person pulling down or otherwise defacing the afore-mentioned notices when so posted up shall be guilty of an offence and on conviction be liable to a fine not exceeding thirty rand or in default of payment to imprisonment for a period not exceeding thirty days.

*General safety measures. Illumination of machinery.*

**167.** (1) Where the natural light at any machinery is deficient, or where machinery is used at night, the user shall install artificial lighting, so that the external moving parts can be clearly distinguished.

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(2) Artificial lights shall be so placed or shaded as to prevent direct rays from impinging on the eyes of the persons operating a machine, in a manner which interferes with the efficient, safe or convenient performance of his work.

*Loose clothing.*

**168.** No person working in close proximity to moving machinery shall wear, or be permitted by the user to wear, loose fitting outer clothing, belts, jewellery, ornaments, watch or key chains or straps.

*Starting and stopping machinery.*

**169.** (1) The user shall provide every machine with an efficient stopping and starting appliance and the control of this appliance shall be in such a position as to be readily and conveniently operated.

(2) The user shall provide belt-driven machinery, which can if necessary be stopped and started without interfering with the speed of the driving unit, permanently with a satisfactory mechanical appliance for the purpose and such appliance shall be constructed as to prevent accidental starting of machinery.

*Driving belts.*

**170.** No person shall ship or unship driving belts whilst the machinery is in motion: Provided that light belts may be shifted on the coned pulleys of machine tools for the purpose of alteration in the working speed: Provided further that in the case of continuous processes an Inspector may approve of an apparatus for shipping or unshipping driving belts whilst in motion.

*Belt perches or safety sleeves.*

**171.** The user shall provide, and cause to be used, efficient appliances to prevent any driving-strap thrown off or removed from a wheel, drum, or pulley, from coming in contact with any shaft in motion.

*Repairing and oiling machinery.*

**172.** (1) No user shall require or permit any person to, and no person shall clean, repair, adjust or lubricate machinery in motion or any parts adjacent to machinery in motion: Provided that where it is impracticable to stop such machinery for the purpose of cleaning, repairing, adjusting or lubricating, such cleaning, repairing, adjusting or lubricating shall be performed by a competent person.

(2) An inspector may require a user to provide automatic devices for oiling machinery whilst in motion where this is practicable.

(3) No user shall require or permit driving-straps to be treated and no person shall treat driving-straps with resin or any composition, unless at rest or unless special devices are provided for safe feeding.

*Ladders.*

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**173.** The user shall cause all ladders used in connection with or adjacent to machinery to be fitted with effective non-skid devices. In rooms where persons work with bare feet, ladders shall not be fitted at the bottom with metal spikes.

*Clear space.*

**174.** The user shall cause sufficient clear and unobstructed space to be maintained at every machine while in motion to enable the work to be carried on without unnecessary risk.

*Condition of floors.*

**175.** The user shall cause the floor surrounding every machine to be maintained in a good and level condition, and as far as practicable, free from chips or other loose material, and he shall not allow it to become slippery.

*Dangerous places.*

**176.** (1) The user shall cause all elevated platforms, openings in floors, trapholes and other dangerous places to be securely fenced, or otherwise adequately protected to prevent accidents to persons.

- (2) (a) No user shall require or permit any person to repair or enter any pit, tank, pressure or any other vessel, valve, or pump chamber unless -
- (i) he has made adequate provision for the clearing out of any dangerous liquids, gases or fumes;
  - (ii) at least one other person is present.
- (b) Where artificial lighting is required by any person repairing or entering such pit, tank, pressure or other vessel, valve or pump chamber -
- (i) no naked lights shall be used;
  - (ii) portable electric lights with flame-proof fittings shall be used, which shall be operated at a pressure not exceeding thirty-two volts.

*Fencing and guarding of transmission machinery.*

**177.** (1) The user shall cause the following parts of transmission machinery to be securely fenced or guarded:

- (a) all shafts, couplings, and collars within reach;
- (b) all other shaft couplings, except those constructed with countersunk bolts and nuts, shrouded flanges, or other equally safe devices;
- (c) all set screws on shaft collars, except such as are counter-sunk or otherwise made equally safe;
- (d) all projecting keys within reach, except pattern keys and sliding keys;

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- (e) all parts of wheels, drums and pulleys within reach, except such as are, by construction or position, equally safe to every person employed or working as they would be if securely fenced;
  - (f) all driving straps with projecting metal fasteners or loose ends, which are within reach;
  - (g) the underside of every overhead driving strap, at those parts where any person employed is liable to have to stand or pass under them at any time either in the course of his employment or incidentally thereto;
  - (h) all metal driving chains which are within reach, and the underside of all overhead metal driving chains;
  - (i) all other driving straps which are within reach;
  - (j) all driving straps, which pass through floor openings.
- (2) For the purpose of this regulation “transmission machinery” shall mean -
- (a) every shaft, wheel, drum or pulley, coupling clutch, driving strap or other device incidental to the transmission of motion between any driving unit and any other machine or appliance;
  - (b) any wheel, clutch, system of fast and loose pulleys, or other device through which any machine or appliance receives its motion.

*Damaged saws.*

**178.** No user shall require, or permit any person to use a power-driven saw which is in any way damaged.

*Circular saws.*

- 179.** (1) The user shall cause every circular saw to be fenced or guarded as follows-
- (a) the part of the saw below the bench table, shall be adequately protected;
  - (b) behind and in a direct line with the saw there shall be a riving knife which shall have a smooth surface, shall be strong, rigid and easily adjustable, and shall also conform to the following conditions: -
    - (i) the edge of the knife nearer the saw shall be in the form of an arc or a circle, having a radius not exceeding by more than one-eighth of an inch, the radius of the largest saw used on the bench;
    - (ii) the knife shall be maintained as close as practicable to the saw, having regard to the nature of the work being done at the time, and at the level of the bench table the distance between the front edge of the knife and teeth of the saw, shall not exceed half an inch;
    - (iii) for a saw of a diameter of less than twenty-four (24) inches, the knife shall extend upwards from the bench table to within one inch of the top of the saw,

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and for a saw of a diameter of twenty-four (24) inches or over, shall extend upwards from the bench table to a height of at least nine inches;

- (c) the top of the saw shall be covered by a strong, easily adjustable guard, with a side flange at the side of the saw furthest from the fence. The guard shall be kept so adjusted that the said flange shall extend below the roots of the teeth of the saw. The guard shall extend from the top of the riving knife to a point as low as practicable to the cutting edge of the saw.

(2) The user shall cause a suitable push-stick to be kept available for use at the bench of every circular saw, which is fed by hand, to enable the work to be carried on without unnecessary risks.

(3) The user shall provide suitable mechanical means for holding rough timber which is to be slabbed by circular saw.

*Moving saws.*

**180.** The user shall cause every swing, pendulum or other saw (except a portable saw), which is moved towards wood or timber: -

- (a) to be guarded so that only the cutting portion of the saw is exposed;
- (b) to be automatically kept away from the cutting position by a balance weight or other suitable means.

*Plane bandsaws.*

**181.** The user shall cause every plane bandsaw to be guarded as follows: -

- (a) the front of the top pulley shall be covered with suitable material;
- (b) both sides of the bottom pulley and any additional pulleys shall be completely encased by suitable material;
- (c) all portions of the blade shall be enclosed, or otherwise securely guarded, except the portion of the blade between the bench table and the top guide.

*Planing machines (woodworking).*

**182.** (1) No user shall require or permit any planing machine which is not mechanically fed, to be used for overhand planing unless it is fitted with a cylindrical butterblock.

(2) No user shall require or permit any planing machine which is not mechanically fed, to be used for planing overhand any piece of wood less than twelve inches in length, unless a safe holder is used for such piece or wood: Provided that this shall not apply to the operation of planing edges of flat pieces of wood.

(3) The user shall provide every planing machine used for overhand planing with a "bridge" guard capable of covering the full length and breadth of the cutting slot in the bench, and so constructed as to be easily adjusted in a vertical and horizontal direction.



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(4) The user shall provide an efficient guard for the feed roller of every planing machine used for thickening, except the combined machine for overhand planing and thickening.

*Moulding machines (woodworking).*

**183.** The user shall cause -

- (a) the cutter of very vertical spindle moulding machine to be provided, when practicable, with an efficient guard, having regard to the nature of the work which is being performed;
- (b) for such work as cannot be performed with an efficient guard for the cutter, the wood, being moulded at a vertical spindle moulding machine, if practicable, to be held in a jig or holder of such construction as to reduce as far as possible the risk of accident to the worker;
- (c) a suitable "spike" or push stick to be kept available for use at the bench of every spindle moulding machine.

*Mortising machine.*

**184.** The user shall provide the chain of every chain mortising machine with a guard which shall enclose the cutters as far as practicable.

*General machinery protection.*

**185.** (1) The user shall cause all exposed machinery not specially referred to in these regulations which, when in motion, may be dangerous to persons, to be securely fenced off, and efficient guards to be provided to such parts of any machinery as may be a source of danger to persons.

(2) No person, unless his duty necessitates it, shall trespass, or be permitted by a user to trespass, within any safety guards or fences.

*Pressure vessels.*

**186.** No pressure vessel shall be used unless -

- (a) it is of sound design and constructed by good workmanship from suitable materials;

**[The word "constructed" is misspelt in the Official Gazette, as reproduced above.]**

- (b) it has been constructed to the design of an approved code of practice, under the supervision of an approved authority and it is certified and stamped on the shell by such authority to this effect;
- (c) it has a manufacturer's plate securely fixed to the shell with the following particulars:
  - (i) maker's name;
  - (ii) country of origin;
  - (iii) factory number;

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- (iv) year of construction;
- (v) hydraulic test pressure in lbs. per square inch;
- (vi) designed safe working pressure in lbs/square inch;
- (d) except in the case of a pressure bottle it is provided with:

[The word "bottle" is misspelt in the *Official Gazette*, as reproduced above.]

- (i) a suitable manhole or other approved means which will allow the interior to be thoroughly cleaned and examined; of
- (ii) at least two suitable inspection or cleaning holes.

*Cleaning testing pressure vessels.*

**187.** (1) The user shall cause all pressure vessels and their connections to be kept clean and free from carbides oil or material liable to ignition or to cause corrosion and to be opened and examined by a competent engineer or competent person at intervals not exceeding one year, and to be tested by such a person at intervals not exceeding two years, by hydraulic pressure to the extent of one and one-third times the safe working gauge pressure. A written record of each such inspection and test, signed by the persons making it shall be in. the user's possession and open to inspection by the Inspector.

(2) The users shall cause all pressure vessels to be thoroughly cleaned out when opened for examination or inspection.

(3) The user shall cause all pressure vessels to be fitted with -

- (a) a suitable pressure gauge designed to show at all times the correct internal pressure in lbs. per square inch, and marked with a prominent red mark at the safe working gauge pressure of the vessel, the dial of which shall be graduated to read not more than double and not less than one and one-half times the working pressure of the vessel;
- (b) a relief or safety valve which is locked and not less than half an inch in internal diameter, capable of automatically preventing any undue accumulation of pressure above the safe working pressure of the vessel, and attached to or attached as near as practicable to the pressure vessel, and no intervening stopcock or valve shall be placed between such relief or safety valve and the pressure vessel, and
- (c) a suitable drain cock or valve at the lowest part.

(4) Where a pressure vessel is worked by steam or air and the supply is at a pressure higher than the safe working gauge pressure of such vessel, an adequate reducing value and a safety valve shall be inserted between the source of supply and the pressure vessel.

- (5) (a) Notwithstanding the provisions of this regulation the Chief Inspector may, upon written application by the user and in respect of pressure vessels used in specialised processes where the application of the provisions of this regulation is in the opinion of the Chief Inspector not practicable, exempt by writing under his hand

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either generally or on such conditions as he may specify the user from the requirements of any or all the provisions of this regulations.

- (b) Any exemption granted in terms of paragraph (a) may at any time be withdrawn or amended at the discretion of the Chief Inspector.

*Air compressors.*

**188.** (1) The user shall cause the supply of air for air compressors to be drawn from the purest and coolest source available.

(2) In the case of air compressors designed to compress more than 240 cubic feet of air per minute, the user shall cause suitable fusible plugs, as well as thermometers or pyrometers, the indications of which can be clearly read, to be fitted close to the outlet valves on the discharge pipes from all air cylinders, and on the outlet air pipes of intercoolers of air compressors: Provided that a compressor of the multiple cylinder type, that is, two or more cylinders connected by inlet and outlet manifolds, may be fitted with one fusible plug and one thermometer or pyrometer; The highest temperature allowed shall be indicated by a red mark on the scale, and the person in charge of the compressor shall see that this temperature is not exceeded. He shall also record the thermometer or pyrometer readings at least once on each day during which the compressor is in use.

(3) The discovery of any weakness or defect in a compressor which is likely to cause danger to any person shall be reported forthwith to the user, and immediate steps shall be taken by the user to remove such weakness or defect, and to prevent danger to persons.

*Generation, transformation, distribution and use of electrical energy. Fencing or enclosure.*

**189.** The user shall cause all premises on which is situated electricity generating plant, transforming, switching or linking apparatus to be fenced or enclosed adequately and notices in both official languages prohibiting unauthorised persons from entering, shall be displayed at all designated entrances to such premises, and where such premises are unattended, all designated entrances shall be kept closed and locked securely.

*Safe selection and erection.*

**190.** The user shall cause:

- (a) all electrical apparatus and conductors to be so selected, arranged, installed, protected, worked and maintained so as to prevent danger to persons so far as is practicable;
- (b) all electrical machinery and conductors to be placed and protected in such a manner that no person can be injured by inadvertent contact with any portion thereof.

*Notices.*

**191.** The user shall cause the following notices in both official languages to be exhibited at suitable places within electric generating stations and sub-stations:

- (a) a notice prohibiting any unauthorised person from handling or interfering with electrical apparatus;

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- (b) a notice containing directions as to procedure in case of fire;
- (c) a notice containing directions as to restoration of persons suffering from effects of electric shock.

*Switchboard.*

**192.** The user shall cause all switchboards to have at the back a clear space of at least four feet. This space shall be kept closed and locked except for the purpose of inspection, alteration or repair; and shall not be obstructed in any manner: Provided that this shall not apply in the case of:

- (a) switchboard, the backs of which are accessible only at the back through an opening in the wall or partition against which they are placed, if such openings are kept closed and locked;
- (b) switchboard which have no uninsulated conductors accessible from the back;

[The first word in paragraphs (a) and (b) should be the plural "switchboards" instead of the singular "switchboard".]

- (c) switchboards for pressure not exceeding low pressure;
- (d) switchboards, the switch gear of which is of a totally enclosed construction.

*Examination and repairs.*

**193.** No user shall require or permit any examination repairs or alterations necessitating the dangerous approach to or the handling of electrical apparatus to be carried on while such apparatus is alive, unless such work be done by or under the constant personal supervision of a competent person.

*Safety Equipment.*

**194.** The user shall provide free of charge and maintain in good condition suitable rubber mats, gloves or gauntlets, safety-belts and such other protective equipment as may be necessary to prevent accidents for the use of persons engaged in examination, repairs or alterations necessitating the dangerous approach to or the handling of live mains or electrical apparatus.

*Temporary earthing.*

**195.** Whenever work is to be carried out on any electrical apparatus which has been disconnected from all sources of supply, but which is liable to acquire or to retain an electrical charge, the user shall cause adequate precautions to be taken by earthing or other means to discharge electrically such electrical apparatus or any adjacent electrical apparatus, if there be danger therefrom, before it is handled and to prevent any conductor or electrical apparatus from being charged whilst persons are working thereon.

*Earthing.*

**196.** (1) The user shall cause all accessible metallic portions of electrical plant or apparatus which, though normally not forming part of an electrical circuit may become alive

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accidentally, to be protected by an insulating covering or by other adequate means or to be connected to earth by a conductor of adequate cross sectional area, except:

- (a) metal in earth-free situations other than runs of metal conduit and the close-fitting metal sheetings and armourings of cables;
- (b) short isolated lengths of heavy-gauge metal conduit used for the mechanical protection of metal-sheathed or tough-rubber-protected cables, where such cables are not used in the secondary circuits of luminous discharge tube installations;
- (c) short, unexposed isolated lengths of metal conduit used for the mechanical protection of insulated wiring passing through floors, walls, partitions or ceilings;
- (d) metalwork of fixed electrical equipment, where such metalwork is more than eight feet above the floor and is neither situated in any position likely to become damp nor in a lift shaft, or near running machinery, nor in contact with a wall, or ceiling or other support, constructed of or covered with conducting material;
- (e) metal parts of electrical apparatus, where such parts are enclosed or shrouded by insulating material so that such metal parts cannot be touched;
- (f) cleats, clips, saddles, clamps or other devices for fixing conduits and cables;
- (g) lamp-caps;
- (h) shades, reflectors, and guards, supported on holders or lighting fittings;
- (i) metal parts on, or screws in or through, non-conducting material, and separated by such material from current-carrying parts and from earthed non-current-carrying parts in such a way that in normal usage they cannot become alive or come into contact with earthed parts.

(2) Before connecting or reconnecting a supply of electric current to any building the supplier shall satisfy himself that all metal roofs, gutters and down-pipes are adequately bonded to earth.

*Transformer or switch houses.*

**197.** No user shall require or permit any person other than a competent person or the person in control to enter transformer houses or switch houses unless all live conductors therein which are not insulated adequately against inadvertent contact, are screened off adequately: Provided that the competent person may be assisted by any other person acting under his immediate personal supervision.

*Protection of supports against climbing.*

**198.** The user shall cause all supports of the lattice type which are used to carry overhead conductors, to be protected adequately in order to prevent any unauthorised person from coming into dangerous proximity of the conductors by climbing such supports, and an inspector may require a user similarly to protect a support of any other type.

*Overhead service mains and consumers' conductors.*

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**199.** (1) No supplier shall require or permit any overhead service mains to be connected to the line conductors elsewhere than at a point of support.

- (2) The supplier shall cause:
- (a) every part of overhead service mains which is accessible from a building or from a ladder leading against a building;
  - (b) overhead mains between buildings;
  - (c) portions of overhead mains which pass a building and are within reach of the building;

to consist of insulated wire of a type which has been approved by the inspector.

(3) Where connection to the consumer's conductors is made by means of overhead service mains, such connection shall be made at the point of entry to the building by means of a terminal connector-box approved by an inspector or by other means similarly approved.

(4) The provisions of this regulation shall *mutatis mutandis* apply to a consumer's open air conductors other than those used in connection with private houses.

*Schemes to be submitted to the Director of Posts and Telegraphs.*

**200.** (1) Before the installation of any distribution scheme or extension to such a scheme may be commenced, supplier shall submit their complete proposals in duplicate to the Director of Posts and Telegraphs for the purpose of deciding by mutual agreement the methods or devices to be adopted by the suppliers to avoid the creation of conditions on existing and projected telephone and telegraph lines which may be dangerous to the public and post office staff. In cases where such conditions can be avoided without material cost to either party by amendment to the projected plans either of the supplier or of the Director of Posts and Telegraphs, such amendment shall be made, provided that an "extension to a scheme" shall not be interpreted to include overhead service mains.

**[The singular word "supplier" should be the plural word "suppliers".]**

(2) An agreement between the two parties shall be submitted to the Chief Inspector for approval, and if agreement cannot be reached, the Chief Inspector shall decide the matter.

(3) All methods and devices required for the protection of the public as agreed to, shall be provided by and at the expense of the supplier.

(4) In cases where changes in the design or construction of an existing power line, which has been erected in accordance with subregulation (1) or (2), or additional devices thereto, become necessary on account of representations made by the Director of Posts and Telegraphs, such alterations shall be carried out by the supplier at the expense of the body at whose representations the change has been brought about.

*Height of conductors.*

**201.** (1) The minimum height from the ground of electric conductors and other wires, except in the case of electric trolley wires and overhead service mains, shall be as follows:

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- (a) Within all townships:
  - (i) eighteen feet, except where otherwise specified;
  - (ii) twenty feet from the rails at all railway crossings;
  - (iii) at telegraph crossings, twenty-one feet unless the inspector otherwise directs: Provided that:
    - (aa) at road crossings where important telegraph lines, such as trunk and junction lines, are also crossed, the supplier shall not be required to provide a greater clearance than twenty-five feet from the ground;
    - (bb) at road crossings where electrical supply lines cross over unimportant telegraph lines which are constructed of bare wires, the supplier shall give at least eighteen inches clearance between the electrical supply line and the telegraph line but shall not be required to provide protective devices or give a greater clearance above ground than twenty feet six inches: Provided that all parts of the crossing and adjacent spans of the supply line have factors of safety fifty per cent in excess of those laid down in these regulations for standard construction;
    - (cc) all other telegraph crossings, such as drop wire telephone service the supplier shall not be required to provide protective devices or give a greater clearance than nineteen feet six inches from the ground.
- (b) Outside townships:
  - (i) sixteen feet, except where otherwise specified;
  - (ii) twenty feet from the rails at all railway and tramway crossings;
  - (iii) eighteen feet at all proclaimed road crossings.
- (2) At any point outside townships where railways or proclaimed roads or important telegraph lines or power lines are crossed by a power line:
  - (a) the crossing shall be as nearly as possible at right angles;
  - (b) the span shall be as short as possible and the support immediately on either side of the railway, tramway, road, telegraph line, or power line shall be stayed in such a manner and the conductor shall be fastened in such wise, that in case of breakage further away, the portion of the conductors over the railway, tramway, road, telegraph line or power line shall not sag;
    - (i) a device shall be provided to ensure that in the event of a live conductor falling it shall be earthed; or
    - (ii) there shall be provided duplicate insulators supporting duplicate conductors tied at intervals not exceeding five feet; or
    - (iii) such other means as may be approved by the inspector shall be provided.

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(3) For the purpose of this regulation:

“important telegraph lines” shall mean telegraph or telephone junction or trunk lines;

“unimportant telegraph lines” shall mean all other telegraph or telephone lines.

*Factors of safety.*

**202.** (1) In the design of all overhead lines, the following minimum factors of safety shall apply to each support and shall refer to the breaking load of the structure:

Material.	Factor of safety.
Iron or steel .....	2.5
Wood .....	3.5
Reinforced concrete .....	3.5

These factors of safety shall apply on the assumption that every line conductor cable or wire carried by the supports is at a temperature of 32 degrees F. and that, together with the supports, they are subjected to a wind pressure at right angles to the line equivalent to twenty-five pounds per square foot. In the case of lattice structures the area for calculating the stress shall be one and one-half times the projected area of one side; in the case of round poles, conductors and earth wires, the area shall be taken as 0.6 of the projected area.

(2) The factor of safety of every line conductor shall be at least 2 (two). This factor shall be based on the breaking load of the conductor and shall be calculated on the assumption that the line conductor is at a temperature of 32 degrees F., and that it is simultaneously subjected to a wind pressure at right angles to the line equivalent to twenty-five pounds per square foot on 0.6 of the projected area of the conductor.

(3) No supplier shall permit a power line to be less than fifty feet from any explosives magazine: Provided than an inspector may require such distance to be increased where the span between the supports of the power line, is greater than one hundred feet.

[The phrase “Provided than” should be “Provided that”.]

*Boilers. Application for certificate.*

**203.** Any person who wishes to use a boiler shall make application in writing to the Chief Inspector in the form prescribed.

*New boiler.*

**204.** In the case of new boilers the application form shall be accompanied by -

- (a) the maker’s complete specification, including the rated equivalent normal evaporative capacity of the boiler in pounds of water per hour from and at 212° F., and its designated heating surface in square feet;
- (b) legible dimension drawings, setting out the complete boiler, the plating, riveting and/or welding details, and the strength of the materials used;
- (c) the certificate of the approved authority issued in accordance with regulation 205(1).

*Boiler design.*



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**205.** (1) No boiler shall be used unless it has been constructed to the design and other conditions of an approved code of practice, under the supervision of an approved authority and it is certified and stamped on the shell by such authority to this effect.

(2) The Chief Inspector may, on receipt of an application to use a boiler, issue a provisional permit subject to such conditions and for such period as he may from time to time determine.

(3) The Chief Inspector may if he is satisfied that a boiler may be safely used and that the provisions of these regulations have been complied with, grant a certificate of registration subject to such conditions as he may specify and may amend or cancel such certificate.

*Fixing of pressure.*

**206.** The authorised working gauge pressure for a boiler shall be that determined for such boiler by an inspector and no user shall require or permit a boiler to be worked at a higher pressure.

*Position of boilers.*

**207.** (1) A boiler shall be so erected as to leave a clear space of not less than three feet free of all walls or other obstructions around it to facilitate examination: Provided that this space may be reduced by not more than six inches in respect of any lagging or other encasement.

(2) The provisions of subregulation (1) shall not apply to any boiler where masonry constitutes an integral part of the boiler.

(3) The highest point of any fitting on top of a boiler shall be at a distance of not less than three feet from the ceiling or the underside of the lowest portion of the roof structure.

(4) Access to the boiler shall be unobstructed.

*Removal of stationary boiler.*

**208.** No user shall require or permit a stationary boiler to be used in a position other than that in which it was situated when the certificate of registration was granted.

*Water level.*

**209.** The lowest working water level for stationary boilers shall be at least three inches above the highest part of the flues passing round or through the boiler, and for portable boilers and boilers of locomotives and locomobiles, such level shall be at such a height above the fire line that, even in the case of oscillation of the boiler, the highest part of the surface reached by the fire and heated gases remain sufficiently covered by water.

*Flues.*

**210.** In case where it is impossible for plating to become overheated, the inspector may approve of portions of the steam space of the boiler being overlapped by the flues.

[The phrase "In case" should be "In cases".]

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*Economiser.*

**211.** In cases where any boiler is connected to an economiser, which is not an integral portion of the structure, consisting of tubes through which the feedwater passes, the economiser flues shall be fitted with a damper and by-pass flue.

*Manholes.*

**212.** The manholes of all boilers shall have an area of at least eleven by fifteen square inches, and shall be sufficient in number to allow of cleaning and examination. The inspector shall determine whether the number is sufficient and he may allow smaller holes for boilers of small dimensions.

*Feeding apparatus.*

**213.** (1) Every boiler which has a capacity of twenty gallons or more steam and water spaces combined, shall be provided with at least two reliable feeding apparatus, each of which is capable of supplying amply the boiler with water. One of these feeding apparatus shall be either a power pump or an injector. Two or more boilers combined for permanent joint working are considered to be one boiler for the purpose of this regulation. The feed apparatus shall be entirely independent of each other, except that when a separate feed discharge stopvalve is fitted on each pump or injector one feed delivery pipe shall be considered to be sufficient.

(2) In the case of boilers of less than twenty gallons capacity (steam and water spaces combined), at least one feed apparatus shall be provided.

(3) In the case of small boilers, other than those referred to in subregulation (2), one feed apparatus may consist of a hand operated feed pump: provided its capacity is such as adequately to supply the boiler with water.

(4) The provisions of subregulations (1), (2) and (3) shall not apply to steam accumulators, steam drums of fireless locomotives, or separately fired superheaters or economisers.

*Check valve.*

**214.** The place where the feed delivery pipe enters the boiler shall be provided with a self-acting nonreturn valve (check) and a stop-cock or wheel valve. The latter shall be placed between the check and the boiler.

*Water gauges and cocks.*

**215.** (1) Subject to the provisions of subregulation (5) hereof, every boiler shall be fitted with at least two reliable apparatus for ascertaining the true level of the water in the boiler. One of these shall be a glass water-gauge, with proper blow-through cocks. In cases where the water-gauge cocks are not attached directly to the shell of the boiler, but to a standpipe or column, cocks shall be fitted between the boiler and the stand-pipe, if the connecting pipes are of less diameter than two inches or if they exceed three feet in length.

(2) The connecting pipes may in any part be of less diameter than two inches, or may exceed three feet in length and be bolted to the boiler without the intervention of cocks; provided the arrangement is otherwise satisfactory and provided further that there is no difficulty in keeping the passage at the ends clear, and in ascertaining that they are so.

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(3) For the latter purpose, the passage in the part of the column between the top and bottom gaugeglass cocks shall be cut off or closed, which may be done permanently or by the interposition of a cock in this part.

(4) When the other apparatus referred to in subregulation (1) of this regulation consists of testcocks the testcocks shall be each separately connected to the boiler and the lowest one shall be at the height of the fixed lowest water level.

(5) One water-gauge shall be sufficient for boilers of less than twenty gallons capacity (steam and water space combined).

(6) The fixed lowest water level shall be indicated by conspicuous marks on the water-gauge, as well as the boiler shell or masonry.

(7) Water-gauges of the glass tubular type shall be provided with an efficient guard which shall be so constructed as not to obstruct the reading of the gauge.

*Safety valves.*

**216.** (1) Subject to the provisions of subregulation (5) hereof every boiler shall be provided with at least two reliable safety valves which shall be loaded so that they will lift when the authorized working gauge pressure is reached. The area opening of these valves for the discharge of steam shall be sufficient in the aggregate to prevent the accumulation of steam pressure in excess of 10 per cent above that for which the valves are set, if any one of the safety valves fails to operate.

(2) Safety valves shall be attached directly to the shell of the boiler or steam dome, and no stop valve shall intervene.

(3) At least one safety valve shall be locked securely and be accessible only to the user of the boiler. Such locked valve or valves shall have an area of not less, and a load not greater, than such valve or valves as are not locked.

(4) In the case of two or more boilers having a common steam drum from which they cannot be disconnected. Two safety valves are sufficient, provided that, the valve is of the area required by these regulations.

(5) One safety valve which shall be kept locked and be accessible only to the user shall be required in the case of -

- (i) boilers of less than twenty gallons capacity (steam and water spaces combined);
- (ii) super-heaters and economisers which can be shut off from boilers; and
- (iii) apparatus using steam of a higher pressure than that of the atmosphere for cocking or heating purposes; and the provisions of subregulations (1) and (2) shall *mutatis mutandis* apply.

[This subregulation is reproduced as it appears in the *Official Gazette*. However, the punctuation suggests that the closing phrase after the final semicolon may have been intended to appear on a separate line, to apply to all three paragraphs in subregulation (5).]

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*Construction of safety valves.*

**217.** (1) Safety valves shall be so constructed that the valve can be freed easily from its seat at any time, and satisfactory provision shall be made in order to prevent the valves from flying off in case of the spring or lever breaking or by the “load” being removed suddenly by accident or other cause.

(2) Safety valves loaded by a weight or spring acting on a lever shall be so constructed that the load acts only upon the extreme end of the lever, and such weight shall be securely fastened to the lever. In cases where safety valves are loaded directly by springs, the compressing screws shall abut against metal stop or washers, at the working load compression.

(3) All safety valves and their connections to the boiler shall be constructed of metal of a type approved by an inspector: Provided that cast iron shall not be regarded as such metal, except in respect of valves and their connections to the boiler fitted to boilers with an authorised working gauge pressure of not more than 150 lb. per inch.

*Load of safety valves.*

**218.** (1) The limits of the load to be placed on safety valves shall be those determined by an inspector, and no weights, springs or levers shall be used other than those approved by an inspector.

(2) No person shall place any undue weight on a safety valve of a boiler, or increase the load in any way beyond the limit fixed by an inspector.

*Low water alarms.*

**219.** (1) Every boiler other than a steam accumulator, steam drums of fireless locomotives, separately fired superheaters or economisers, shall be provided with a contrivance by which any deficiency of water is automatically made known, independent of any personal observation. Such contrivance may be either a steam whistle operated by float or other means, a fusible plug or other contrivance approved by the inspector.

(2) Electric or gas heated boilers shall have low water alarms or indicators, other than fusible plugs.

*Pressure gauge.*

**220.** (1) Every boiler shall be provided with at least one reliable pressure gauge which shall be so fitted as to indicate the pressure of the point of maximum steam pressure. The dial of such gauge shall be graduated to show pressure in pounds per square inch, and in addition shall show the authorised working gauge pressure marked distinctly with a red line. The dial shall be graduated to show clearly the authorised working gauge pressure and the hydraulic test pressure as determined in accordance with regulation 230 and the maximum indication of the gauge shall not exceed double the authorised working gauge pressure.

(2) Every pressure gauge shall have a separate direct communication with the boiler and shall be capable of being shut off from the boiler. The cock or valve for this purpose shall be in full view.

*Test gauge connection.*

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(3) Every boiler, the authorised gauge pressure of which is 400 lbs. per square inch, or less, shall be provided with a contrivance consisting of a cock with a flange one and five-eighths inches in diameter by three-sixteenths of an inch thick for the attachment of the inspector's test gauge, and such contrivance shall be placed so as to enable the test gauge and the boiler gauge to be read from one place.

(4) Every boiler, the authorised working gauge pressure of which is in excess of 400 lbs. per square inch, shall be provided with a valve or cock carrying in a vertical position a receiving socket for the attachment of the inspector's pressure gauge. The receiving socket shall be tapped with a ¾-inch standard Whitworth pipe or bolt screw thread and shall be fitted with an easily removable screw cap or plug.

*Blow-off cocks or pipes.*

**221.** (1) Every boiler shall be provided with at least one blow-off cock or valve, placed at the lowest point and connected either by flange direct or by means of a flanged pipe.

(2) Every blow-off cock or valve and all the fittings connected with such contrivances shall be constructed of metal (other than cast iron) of a type approved by an inspector.

(3) In cases where connecting pipes are fitted, they shall not be in contact with any masonry, they shall be joined by flanges, and, if the flange is not solid with pipe, such pipe shall pass through the flange and be riveted over on the inside in addition to any other connection between the flange and the pipe, such as screw-thread and rivets. Where the authorised working gauge pressure is in excess of 450 lbs. per square inch all flanges shall be welded on wherever practicable, and stress relieved.

(4) The discharge from every blow-off cock shall be conducted by means of a pipe into an open tank, drain or sump which is so situated and guarded as to prevent danger to any person.

(5) Except with the written permission of an inspector, no user shall permit the discharge from the blow-off cocks of two or more boilers to lead into a common pipe.

*Steam stop valves.*

**222.** (1) Every boiler shall be provided with a main steam stop valve as close as practicable to the boiler.

(2) If more than one boiler is connected to the same steam range a non-return valve shall be placed between the main stop valve and the range, as close to the steam range as practicable. This non-return valve may be of the screw-down type.

(3) All steam valves and their connections to the boiler shall be constructed of metal of a type approved by the inspector: Provided that cast iron shall not be regarded as such a metal, except for valves fitted to boilers that an authorised working gauge pressure of not more than 150 lbs. per square inch.

(4) No person shall draw steam from the boiler for any purpose except the operation of the boiler auxiliary apparatus, otherwise than through or by means of the main steam stop valve.

[The word "auxiliary" is misspelt in the *Official Gazette*, as reproduced above.]

*Particulars to be marked on new boiler.*

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**223.** (1) The name of the maker, the current factory number, the year of construction, and the intended working gauge pressure in pounds per square inch shall be marked on the shell of every new boiler, and these particulars must be so placed that they can be easily seen at all times.

(2) Every boiler shall be provided with a soft copper plate four by two and a half by one-eighth inches in size which shall be fixed by means of four three-eighths of an inch diameter copper rivets to the front of the boiler shell, in such a position that it can be easily seen at all times, and the rivet holes must be countersunk so that the rivets are flush with the copper plate.

The inspector shall mark on such plate in a clear manner the official number, the year when the boiler was examined first, together with the authorized working gauge pressure under which the boiler is permitted to work.

(3) The copper rivet heads shall be stamped by the inspector with the official stamp, and such copper plate shall not be removed or the record stamped thereon shall not be defaced or altered except by the inspector.

*Emptying and opening of boiler.*

**224.** (1) When a boiler is being emptied and opened for cleaning, repairs or any other purpose, the user shall take every precaution to ensure the safety of all persons employed on such work or in the vicinity.

(2) No user shall require or permit any person to enter a boiler or its flues, until he has satisfied himself that such boiler and flues are safe for persons to enter and that the steamstop, feed, blow-off and all other valves and cocks which may be a source of danger are banked off or closed and securely fastened by means of chains and locks.

(3) While a boiler is being cleaned or repaired, no person shall unfasten or open any valves or cocks which have been so fastened.

(4) Where portable electric lights are used during cleaning, repair, or inspection of a boiler or auxiliary equipment, the user shall ensure that such lights are operated at a pressure not greater than 32 volts.

**[The word "auxiliary" is misspelt in the *Official Gazette*, as reproduced above.]**

(5) No person shall use water on hot flues, dust or ashes where danger may arise from such use.

*Inspection of boiler.*

**225.** (1) Whenever the inspector proposes to conduct an internal examination or hydraulic test of a boiler, he shall after consultation with the user, determine the date and time of such examination or test and notify the user thereof in writing.

(2) Upon receipt of such notification the user shall cause all parts of the boiler to be thoroughly cleaned and prepared for examination, or testing.

(3) Any user who fails without good reason to have a boiler prepared for inspection on the date and at the time notified shall be guilty of an offence. Every such user shall apply in

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writing, within seven days for a new date and time to be fixed for the examination or test and shall forward with such application a fee of ten rand.

*Assistance at inspection.*

**226.** The user of a boiler or steam apparatus shall place, free of cost, at the disposal of the inspector, workmen, light, tools, or such other equipment as may be required by the inspector for the purpose of his examination or test.

*Removal of casing.*

**227.** When the examination of a boiler cannot be otherwise properly executed, any parts or the whole of the masonry or other casing shall be removed by the user when requested by the inspector.

*No encasing before test.*

**228.** No user shall require or permit a boiler to be encased, whether by masonry or otherwise, before it has been examined or tested by water pressure by an inspector except with the written permission of the inspector.

*Opportunity for external examination.*

**229.** Whenever the masonry or other casing of any boiler in use has been removed either for the purpose of renewal or for repairs to the boiler, and the stoppage of work occasioned thereby provides sufficient time for the external examination of the boiler, the user shall not replace such masonry or other casing without the written permission of the inspector.

*Hydraulic test pressure.*

**230.** (1) For boilers having authorised gauge working pressure not exceeding 75 lbs. per square inch, the hydraulic test pressure shall be double the authorised gauge working pressure.

(2) For boilers having authorised gauge working pressures exceeding 75 lbs. per square inch but not exceeding 150 lbs. per square inch, the hydraulic test pressure shall be 75 lbs. per square inch above the authorised gauge working pressure.

(3) For boilers having authorised gauge working pressure exceeding 150 lbs. per square inch but not exceeding 300 lbs. per square inch, the hydraulic test pressure shall be 1½ times the authorised gauge working pressure.

(4) For boilers having authorised gauge working pressure exceeding 300 lbs. per square inch but not exceeding 600 lbs. per square inch, the hydraulic test pressure shall be 150 lbs. per square inch above the authorised gauge working pressure.

(5) For boilers having authorised gauge working pressure exceeding 600 lbs. per square inch, the hydraulic test pressure shall be 1¼ times the authorised gauge working pressure.

(6) No test shall be regarded as satisfactory until the boiler has borne the test pressure to the satisfaction of the inspector.

*Reduction of authorised pressure.*

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**231.** (1) When it appears from an examination that a boiler can no longer be worked with safety at the authorised working gauge pressure and the user declines to have the necessary renewals or repairs effected, the inspector may fix a new authorised pressure at which the boiler may continue to be worked, and the inspector shall mark the now reduced pressure on the copper plate provided for such purpose, and no user shall require or permit such boiler to be worked at a higher pressure.

(2) When on examination a boiler is found to be in a condition from which immediate danger may arise, the inspector shall order the working of such boiler to be suspended, and such boiler shall not be used until repairs have been carried out and permission has been granted by the inspector.

*Boiler inspection registers.*

**232.** (1) The user of a boiler shall be furnished free of charge with a register in the form prescribed.

(2) Every user to whom a register has been issued shall keep the said register in such place as an inspector may direct or in the absence of any such direction, in a safe place, and shall keep in the register the certificate of registration issued to him under regulation 205.

(3) If a user loses the register he shall, not later than seven days after the discovery of such loss, apply in writing to the inspector for the issue of a duplicate register and shall forward with such application a fee of two rand.

*Log books.*

**233.** (1) In addition to the inspection register, the user shall keep record or a log book of the working of each boiler on the premises.

[The word "a" appears to have been omitted before the word "record"; alternatively, the singular word "record" may have been intended to be the plural word "records".]

(2) The user shall enter without delay in such book the dates on which the boiler is cleaned or examined, the conditions of the boiler at such examination, together with a full report of any alterations or repairs which have been carried out and. each such entry shall be signed by the user or competent person appointed in terms of regulation 38.

*Returns.*

**234.** The user of a boiler shall forthwith notify the inspector in writing when:

- (a) he proposes to execute repairs, including general retubing, renewal of furnaces or flues, fixing of new plates or patches and changing of stays;
- (b) he ceases permanently to use a boiler;
- (c) he transfers a boiler to any other person, in which case he shall advise the inspector of the name and address of such person;
- (d) he proposes to move a stationary boiler;
- (e) a boiler is damaged.



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## PART IV

## ACCIDENTS, AMBULANCE, SUMMONING OF WITNESSES

*Accidents and enquiries. Accident resulting in death  
or serious personal injury. Notice to Chief Inspector.*

**235.** Whenever an accident occurs at a mine or works or in connection with the use of a boiler, steam apparatus, steam engine or any mechanical or electrical appliance subject to these regulations which results in:

- (a) the death of any person; or
- (b) an injury to a person likely to be fatal; or
- (c) unconsciousness from heatstroke, heat exhaustion, electric shock or the inhalation of fumes or poisonous gas; or
- (d) incapacitation from heatstroke, heat exhaustion, electric shock or the inhalation of fumes or poisonous gas which will prevent the affected person from resuming his normal or similar occupation within forty-eight hours; or
- (e) an injury which either incapacitates the injured person from performing his normal or similar occupation for a period totalling fourteen days or more, or which causes the injured person to suffer the loss of a limb or part of a limb, or sustain a permanent disability;

the manager of the mine or works shall give notice thereof to the Chief Inspector in the manner herein prescribed: Provided that the giving of such notice shall in no case exempt the manager or any other person from also giving notice, in accordance with the law in force relating to inquests or inquiries into the cause of death from unnatural causes, of any such death as mentioned in this regulation.

Notice in respect of (a), (b) and (c) above shall immediately be given by the quickest means available and shall be confirmed without delay on the form obtainable from the office of the Chief Inspector for such purpose.

Notice in respect of (d) and (e) above shall be given on the form prescribed above within seven days of the accident becoming notifiable.

*Fatal accidents – notice.*

**236.** When serious personal injury results in the death of the person injured, after the official report has been forwarded, or when any slight injury, of which no official notice was given, results in the death of the person injured the manager or user, as the case may be, must without delay, give notice thereof to the Chief Inspector and to the magistrate of the district.

**[The word “manager” is misspelt in the *Official Gazette*, as reproduced above.]**

*Place of accident to be left undisturbed.*

**237.** Where any serious personal injury immediately results in the death of the person injured, the place where the accident occurred shall not be disturbed or altered before the arrival of or without the consent of the Chief Inspector or his deputy, unless such interference is

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unavoidable to prevent further accidents, to remove dead bodies, to rescue persons from danger, or unless it can be proved that the discontinuance of the work at this place would seriously impede the working of the mine or works: Provided: should the Chief Inspector or his deputy from any cause fail to attend within three days after notice of the accident has been despatched, work may be resumed at the place in question.

*Right to attend accident enquiry or inspection.*

**238.** Any person who in terms of subsection (2) of section 11 of the ordinance has the right to cross-examine any witness at an inquiry into an accident, as well as any representative appointed by him, shall have the right to attend any inspection in loco of the scene of the accident but such attendance shall be at his own risk. In case such person is, by reason of death or the severity of his injuries, unable to appoint any representative to attend the inquiry or inspection in loco for him, the relatives or in their absence, the fellow workmen of such person may appoint such representative.

*Burial certificate.*

**239.** In case of death resulting from accident in any mine or works and referred to in regulations 236 and 237, the burial certificate to be issued by an officer appointed for the purpose may be withheld until such officer has received a certificate signed by the District Surgeon or other admitted medical practitioner stating that he has examined the body.

*Notice to the magistrate or J.P. in default of Chief Inspector.*

**240.** The manager of a mine or works where an accident has occurred resulting in death, or the user or his representative of any machinery in connection with which an accident has occurred resulting in death, shall immediately, on being notified that the Chief Inspector will be unable to hold an inquiry into such accident, inform the nearest magistrate or Justice of the Peace of the accident and of the inability of the Chief Inspector to attend; thereupon the magistrate or Justice of the Peace shall cause an investigation to be made on the spot into the cause of the accident.

*Reporting of non-casualty accidents.*

**241.** Whether personal injury results or not, the manager shall immediately give notice to the Chief Inspector by the quickest means available of every accident or occurrence included in the following classifications. Such report shall be confirmed without delay on the same prescribed form for notifiable accidents mentioned in regulation 235:

- (a) Winding plant permitted in terms of regulations 40 and 73:
  - (i) Running out of control of winding-engine, winding drum or conveyance.
  - (ii) Fracture or failure of any essential part of the winding-engine fracture or failure of any safety device used in connection with winding equipment.
  - (iii) Fracture, failure or serious distortions of winding rope; fracture, failure or serious distortion of any connection between the winding rope and the drum or between the winding rope and the conveyance or between the winding rope or any other load suspended from or attached to such rope; fracture or failure or serious distortion of any connection between conveyances or between a

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conveyance and any suspended or attached load; fracture of guide rope or its connections; fracture of balance or tail rope or its connections.

- (iv) Fracture or failure of winding or balance rope sheave or of the shaft or shaft bearing of such sheave; fracture or failure of any essential part of the head-gear or such sheave support.
  - (v) Jamming or accidental overturning of conveyance; conveyance or its load fouling shaft equipment; jamming of crossheads.
  - (vi) Derailing of conveyance.
  - (vii) Conveyance, bridle, frame or crosshead accidentally leaving guides.
  - (viii) Fracture or failure of the brake or its operating mechanism.
  - (ix) Acting of safety catches when not required.
  - (x) Acting of any over-winding prevention device when not required.
  - (xi) Any over-wind or over-run of the conveyance to an extent which may have endangered persons or may have caused damage to the winding equipment.
  - (xii) Failure of depth indicator.
- (b) Elevators:
- (i) Fracture or failure of any essential part of the driving or operating machinery; fracture or failure of any safety device used in connection with the elevator.
  - (ii) Fracture or distortion of elevator rope; fracture or failure of attachments of such rope.
  - (iii) Fracture or failure of any sheave or of the shaft or shaft bearing of such sheave.
  - (iv) Jamming of car or counter-weight.
  - (v) Fracture or failure of brake or its operating mechanism.
  - (vi) Acting of safety catches when not required.
  - (vii) Acting of any over-winding prevention device when not required.
- (c) Boilers:
- Fracture or failure of any essential part of a boiler.
- (d) Miscellaneous:
- (i) Extensive caving or subsidence in the ground or workings causing or liable to cause damage to underground workings or to the surface or to endanger persons.

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- (ii) Any accident due to explosives, or any accidental ignition or detonation of explosives.
- (iii) Flooding of any considerable portion of the working or failure of any dam or reservoir used for conserving water or slimes.
- (iv) Any fire or any indication or recrudescence of fire or of spontaneous combustion in the mine or any explosion of gas or dust.
- (v) Breakdown of any main ventilation fan.

*Register of accidents.*

**242.** At each mine or works a register shall be filled in which all accidents occurring at such mine or works which in terms of these regulations are required to be reported to the Chief Inspector must be recorded, and within one month after the thirty-first of December of each year a complete list of such accidents for the preceding twelve months shall be sent by the manager to the Chief Inspector.

*Evidence.*

- 243.** For the purpose of any enquiry or inspection the Chief Inspector:
- (a) may require by summons the attendance of such persons as he may think fit for the purpose of such examination;
  - (b) may require the production of any books, papers and documents which he considers important for the purpose;
  - (c) may administer an oath or affirmation and require any person examined to make and sign a declaration of the truth of the statements made by him in his examination.

*Summoning of witnesses and accused persons.*

**244.** (1) The form of summons to be served on any accused person or any witness whose evidence is required at an inquiry into an accident or other injury, or in terms of these regulations, or at the trial of any person under section 9 of the ordinance, or at the hearing of the appeal under any provision of the ordinance shall be substantially as follows:

- (a) Accused persons:

To .....  
 you are hereby required to summon .....  
 of .....  
 that he appear personally before the Court of the Inspector of Mines at .....  
 on the ..... day of .....  
 ..... next, at ..... o'clock  
 in the forenoon/afternoon there to answer and abide the judgment of the Court upon the complaint and  
 information of .....  
 that the said .....  
 .....  
 .....

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.....  
 .....  
 did on or about the .....  
 day of .....  
 ..... last, and at  
 ..... wrongfully, and unlawfully  
 ..... Serve on the said  
 ..... a copy of  
 this summons and return to the undersigned what you have done thereon.  
 Dated at ..... this .....  
 day of ..... 19 .....

(Signature of person authorised to  
issue summons.)

(b) Witnesses:

To .....  
 You are hereby required to summon .....  
 of .....  
 that he appear personally at .....  
 to attend an inquiry/trial before .....  
 on the ..... day of .....  
 next, at ..... o'clock in the forenoon/  
 afternoon to testify and declare all he knows concerning.....  
 ..... and in connection  
 therewith to produce the documents and papers hereinafter specified .....  
 and serve on the said .....  
 a copy of this summons, and return to the undersigned what you have done thereon.  
 Dated at ..... this .....  
 day of ..... 19.....

(Signature of person authorised to  
issue summons.)

*Service.*

(2) Whenever it shall be necessary to serve any such summons as is mentioned in subregulation (1) hereof on any person, such service shall be effected through the Court of the Magistrate within whose area of jurisdiction such person is resident or employed, or by a member of the Police Force, or by such person as may be authorised to do so by the person issuing such summons.

*Officers who may issue summons.*

(3) Every such summons as aforesaid shall be signed by the Chief Inspector or other person or persons duly authorised to issue it and shall specifically state the time and place at which the witness named therein is to attend.

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*Magistrates' Court's provisions to apply to summonses.*

(4) Whenever it shall be necessary to summon any person charged with the contravention of any regulation or rule in force under section 12 of the ordinance to appear before an Inspector, at any trial under section 9 of the ordinance or otherwise to secure the attendance of such person at such trial, the provisions of the law and regulations in force in the magistrate's court for summoning or securing the attendance of accused persons shall *mutatis mutandis* apply.

*Ambulance, etc. Emergency ambulance supplies on surface.*

**245.** (1) On the surface of every mine there shall be kept available for immediate use when required at a place readily accessible in the event of accident to persons employed at the mine, at least the following:

- (a) Two stretchers of a pattern approved by the Chief Inspector each provided with two woollen blankets.
- (b) A substantially constructed and readily portable first aid box containing at least:

- two tourniquets;
- twelve triangular bandages;
- twelve three inch bandages;
- twelve first aid dressings;
- one lb. cotton wool;
- one lb. surgical gauze;
- one pair round pointed scissors;
- one packet safety pins;
- an adequate supply of splints;
- a card containing directions for treatment in cases of gassing;

as well as the following which shall have been prepared by a qualified dispenser:

- one, six ozs. corrugated bottle antiseptic solution clearly labelled "Antiseptic - not to be taken";
- three two ozs. bottles of salvolatile solution made up in the proportion of one teaspoonful of salvolatile in two ozs. of water and clearly labelled "Stimulant";
- three two ozs. bottles of emetic solution made up in the proportion of nine grains of copper sulphate in two ozs. of water and clearly labelled "Emetic";
- one two oz. bottle of one per cent cocaine in castor oil clearly labelled "For eye injuries only"

*Ambulance supplies underground.*

(2) In every main travelling shaft at suitable stations underground first aid stations not less in number than one for every four levels in which ordinary mining operations are being conducted, shall be established at conspicuous and well lighted places. Such first aid stations shall be equipped with at least the following:

- (a) Three stretchers of a pattern approved by the Chief Inspector;

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- (b) two first aid boxes conforming with the requirements set out in subregulation (1)(b) hereof.

*Ambulance officers.*

(3) The manager shall appoint one or more competent persons to take charge and be responsible for the upkeep of the ambulance supplies and appliances provided, both on the surface and underground, and shall provide for the prompt replenishing of the ambulance supplies whenever necessary.

*First aid packets.*

(4) Every underground mining official shall be provided with and shall carry with him during his working hours two antiseptic compresses each sewn into a bandage and contained in a waterproof packet or packets.

*First aid instruction.*

**246.** (1) On every mine where more than three hundred persons are employed, the manager shall make provision for each of the following mine officials and such other officials as he may direct to attend at least once in every three years a course of instruction in first aid to the injured given by the mine Medical Officer or other person approved by the Chief Inspector.

Underground manager, mine overseer, shift boss, chief surveyor, assistant surveyor, sampler, mechanical engineer, electrical engineer, accident officer, foreman smith, foreman carpenter, foreman fitter, foreman timberman, chief electrician, mill manager, compound manager, hospital superintendent or orderly, and ambulance officer.

**[subregulation (1) amended by RSA Proclamation R.89/1969]**

(2) On every mine whenever a course of instruction in first aid to the injured is to be arranged a notice to that effect and a list shall be posted up at the mine office and/or recreation club and the manager shall make provision for any mine employee who, of his own free will, has subscribed his name to such list to attend such course free of charge provided attendance by such employee will not interfere with his normal working duties.

**[subregulation (2) amended by AG GN 179/1980]**

(3) On every mine where personnel and facilities for the instruction of persons in first aid to the injured may be available, the manager shall promote and encourage the training in first aid of his employees more particularly the gangers in charge of working gangs.

**[subregulation (3) amended by AG GN 179/1980]**

*Ambulance at works.*

**247.** At every works such ambulance arrangements as may be required by the Chief Inspector shall be provided by the manager on receiving written notification from the Chief Inspector detailing such arrangements.

*Medical aid to be sent for - Manager responsible.*

**248.** When any person employed in or about a mine or works receives injury by accident or otherwise the manager shall be responsible for seeing that the nearest qualified medical

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practitioner is sent for, unless the regular medical practitioner appointed to the mine or works resides within two miles of the scene of the accident, in which case such medical practitioner shall be summoned. If the injured person is unable to proceed unaided to his abode or to a hospital the manager of the mine or works shall immediately have such person conveyed to his abode or to a hospital in the safest, best and quickest way at the expense of the owner of the mine or works.

*Provision of antidotes to poison.*

**249.** In every mine or works where cyanide solution is used, or where arsenic (arsenious acid) is produced, there shall be kept in a conspicuous place, convenient to every building at which such material is used or manufactured, a sufficient supply of a satisfactory and efficient antidote approved by the Chief Inspector. Such antidote shall be kept in a covered but unlocked box, which shall be labelled “Cyanide Antidote” or “Arsenic Antidote”, and explicit directions for the use of such antidote shall be affixed inside the lid of the box.

**[regulation 249 amended by RSA Proclamation R.89/1969]**

*Provision of facilities for washing.*

**250.** (1) At every mill, assay office or works where mineral substances of a poisonous nature are treated, or where poisonous chemicals or re-agents are used there shall be provided an adequate supply of wholesome water distinctly labelled in both official languages and in such other languages normally used by persons there employed as “Drinking Water”.

(2) Adequate facilities shall be provided for persons employed in such places to wash their hands and no such person shall partake of food during his working shift or go off shift until he has washed his hands.

(3) The provisions of this regulation shall be made known to all persons employed in such places.

PART V

BLASTING CERTIFICATES

*Blasting Certificates - issuing authority.*

**251.** The issuing authority for blasting certificates for prospecting, mining and quarrying shall be the Chief Inspector who, on examination of an applicant and on satisfying himself that such applicant is competent to perform the duties of a ganger in accordance with the provisions of these regulations and has proficient knowledge of the regulations appertaining to the care and use of explosives, with sufficient practical knowledge of the safe conduct of blasting operations, may issue a certificate.

*Qualifications of candidate.*

**252.** An applicant shall not be accepted as a candidate for examination for a blasting certificate, unless:

- (a) he is at least eighteen years old;
- (b) he can read and write at least one of the official languages;



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- (c) he has had at least one hundred and eighty shifts of experience of a nature which in the opinion of the Chief Inspector qualifies him for examination for a provisional blasting certificate for all the underground duties of a ganger except the duties of examination and making safe required by regulation 37;
- (d) he has had at least three hundred shifts of experience of a nature which in the opinion of the Chief Inspector qualifies him for consideration for a permanent blasting certificate for all underground duties;
- (e) he has had at least 60 shifts of experience acceptable to the Chief Inspector for a provisional blasting certificate for opencast work;
- (f) he has had at least 120 shifts of experience acceptable to the Chief Inspector for a permanent blasting certificate for open cast work;
- (g) he has good hearing and has the eyesight necessary to enable him to perform the duties of a ganger competently.

*Limit of validity of blasting certificate.*

**253.** A blasting certificate issued in respect of opencast prospecting, mining or quarrying operations shall not entitle the holder to conduct blasting operations in the underground workings of any mine.

*Production of certificate.*

**254.** Upon engagement a miner shall produce his blasting certificate which shall be retained by the manager until the termination of the engagement whereupon it shall be returned to the miner.

*Chief Inspector may suspend or cancel blasting certificate. Appeal to Administrator.*

**255.** If at any time the holder of a blasting certificate issued in accordance with these regulations or any subsequent amendments thereof shall in the opinion of the Chief Inspector be guilty of inattention or negligence in the execution of his duties or of any misconduct, or shall suffer from any infirmity likely to be detrimental to the efficient discharge of his duties, the Chief Inspector may immediately suspend or cancel such certificate. In the event of such suspension or cancellation such ganger or miner shall have the right to appeal from such decision to the Minister as in the manner provided under section 15 of the Mines, Works and Minerals Ordinance, 1968.

[Regulation 255 is amended by RSA Proclamation R.89/1969.  
The word "a" in the phrase "in accordance" is superfluous.]

PART VI

CONTROL OF DAYS AND HOURS OF LABOUR

*No work on certain days.*

**256.** (1) No person shall perform, or cause or permit any other person to perform, at any mine or works, any work in connection with the operation of a mine or works, on a Sunday, Christmas Day, Day of the Covenant or Good Friday, or cause any other person to perform, at any mine or works, any such work on Republic Day, unless the work is -

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[introductory phrase of subregulation (1) substituted by RSA GN R.817/1972]

- (a) attending to or working pumping or ventilating machinery, or machinery for the supply of light, heat or power, or any boiler belonging to any such machinery;
- (b) such work above or below the surface as cannot be delayed without causing danger or damage to life, health or property, including work in workshops necessary or incidental to any such work;
- (c) operating any continuous chemical, metallurgical or smelting process, if a stoppage thereof during the whole of any such day would either prevent its immediate resumption on the next succeeding day or diminish the effectiveness of the process;
- (d) the policing of the mine or works, or the carrying on of medical and health services or services in connection with housing and feeding.

(2) The Chief Inspector may, on application, grant special permission for carrying on temporarily any necessary work in addition to work described in subregulation (1), at a mine or works on the days mentioned in that subregulation.

(3) For the purpose of this regulation Sunday, Christmas Day, Good Friday, Day of the Covenant and Republic Day shall mean the period from twelve o'clock midnight on the day previous to any such day to twelve o'clock midnight on any such day.

*Control of hours of work.*

257. (1) Subject to the provisions of subregulation (2), no person shall work, or cause or permit any other person to work underground, in or on any mine or works for more than forty-eight hours during any consecutive seven days, exclusive of the time occupied in going to and from the place where the work is performed.

[regulation 257(1) amended by GN 196/1968]

- (2) The provisions of subregulation (1) shall not apply to -
  - (a) work necessitated by accident or other emergency; or

[The word "necessitated" is misspelt in the *Official Gazette*, as reproduced above.]

- (b) to the work or service of any mine official or of any special class of employee exempted by the Chief Inspector for the reason that such work or service is performed or rendered for the purpose of securing safety, or of transporting employees to and from their working places in a mine.

(3) On every mine where more than one hundred persons are employed, the manager shall provide:

- (a) *in the case of underground mines:* That a notice shall be kept posted up at each shafthead on the surface, showing the times of entry of the shifts to the mine and of their reutrn to the surface and, that a clock, showing the time to be observed on the mine be installed at each such shaft head;

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[The word “return” is misspelt in the *Official Gazette*, as reproduced above.]

- (b) *in the case of opencast mines*: That a notice shall be kept posted up at a suitable place showing the time and duration of the shifts on the mine;
  - (c) that the time occupied in getting any workman to and from his working place shall not together exceed one hour for anyone shift. In special cases the Chief Inspector may on receipt of a written application by the manager, grant such extension of the period of one hour as he may consider necessary. Notice of such application shall be posted up at the mine for fourteen clear days before the application is sent to the Chief Inspector;
  - (d) That the mine overseer, shift boss or other persons appointed by the manager for the purpose shall take all reasonable steps in the case of underground mining to ensure that no person not exempted under subregulation (2) hereof remains underground after the hoisting or return to the surface of persons employed on that shift is concluded and shall record in a book to be provided by the manager the name of any such person so remaining underground and the time when such person realise the surface of the mine.
- (4) (a) Where employees work on 6 days per week, any person required to work more than eight hours during any one shift, whether the period of duty is continuous or broken, shall be paid at one and one half times the ordinary rates for every hour or part of an hour so worked.
- (b) Where employees work on 5 days per week, any person required to work more than 9 hours 36 minutes during any one shift, whether the period of duty is continuous or broken, shall be paid at one and one half times the ordinary rates for every hour or part of an hour so worked.
- (c) If the duty is a continuity of the shift, only the hours actually worked in excess of those laid down in (a) or (b) above, as the case may be, shall be paid for: Provided that the employee has been warned during his ordinary shift that he will be required to work extra time.
- If the employee is called back for extra duty after the completion of his normal shift, he shall be paid at the increased rate for a minimum of two hours in respect of every call out, if the task is completed in less than two hours.
- Should the task take up to six hours to complete, only hours worked shall be paid for;
- should the task take more than six hours, but more than eight hours to complete, the employee shall be paid the increased rate for a full eight hours;
- should the task take more than eight hours to complete, the employee shall be paid at the increased rate only for the extra hours actually worked.
- (d) Any person required to work in terms of paragraphs (a), (b) and (c) of subregulation (1) of regulation 256, on any of the days mentioned in regulation 256(1), shall be paid at double the ordinary rates of pay for any time worked on such day, with a minimum of two hours pay at the increased rate for every individual spell of work on any such day. Should the spell of work be more than six hours but less than eight hours, pay shall be at double the ordinary rate for a full eight hours; should the work take more than eight hours to complete, pay shall be at double the ordinary rate for actual hours worked only.

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- (e) Shifts worked regularly on the days mentioned in paragraph (d) above, shall count as holiday accruing shifts: Provided that an occasional shift worked on any such day with the special permission of the Chief Inspector in terms of the proviso in subsection (2) of regulation 256, shall not count as a holiday accruing shift.
- (f) New Year's Day shall, in respect of pay and holiday facilities for work performed on such day be considered subject to the conditions set out in paragraphs (d) and (e) of subregulation (4) of regulation 257: Provided that the management of any mine or works may, on application by an employee, excuse such employee from duty on New Year's Day, when pay shall be at normal rates for one day.

*Leave for employees.*

**258.** (1) Every employer shall grant to every European employed by him in or about a mine or works in respect of each period of 312 ordinary working shifts employment with him, and not later than two months after the termination of the said period, leave of absence on full pay of not less than thirty consecutive days. Provided that -

- (a) the period of such leave shall not be concurrent with any period during which the employee is under notice of termination of employment, or is undergoing peace training under the South Africa Defence Act, 1912 (Act 13 of 1912), as it may be amended from time to time and as applied to the Territory; and
- (b) if any public holiday referred to in regulation 256 falls within the period of such leave, such holiday shall be added to the said period as a further period of leave of absence on full pay.

(2) The employer shall pay to an employee to whom leave is granted under subsection (1), his pay in respect of the period of leave, not later than the last working day before the commencement of the said period.

(3) Upon termination of employment, the employer shall pay to an employee his full pay -

- (a) in respect of any period of leave which has accrued to him but was not granted before the date of termination of the employment; and
  - (b) for two days in respect of each completed month of employment with the employer after the date on which he last became entitled to leave in terms of subregulation (1), and in the case of an employee who has been employed for less than twelve months, one day in respect of each completed month of employment with the employer after the date of commencement of his employment.
- (4) Any period during which an employee -
- (a) is on leave in terms of subregulation (1) hereof; or
  - (b) undergoes peace training under the South Africa Defence Act, 1912, as it may be amended from time to time and as applied to the Territory; or

**[The South Africa Defence Act 13 of 1912 was repealed by the Defence Act 44 of 1957 (SA), which was repealed in Namibia by the Defence Act 1 of 2002.]**

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**Mines, Works and Minerals Ordinance, 1968 (Ordinance 20 of 1968)**

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- (c) is absent from work on the instructions or at the request of the employer; or
- (d) is absent from work owing to illness, shall be deemed to be employment for the purposes of subregulations (1) and (3): Provided that the provisions of paragraph (d) hereof shall not apply in respect of any period of absence owing to illness of more than 3 consecutive days, if the employee fails to submit a doctor's certificate stating that his absence was due to illness, or in respect of that portion of any total period of absence during any twelve months of employment which is in excess of 30 days.
- (5) Any amount paid to an employee in terms of this regulation shall be, calculated at the basic rate of remuneration which the employee was receiving immediately prior to the date upon which the leave became due or his employment terminated, as the case may be.
- (6) Any employee who absents himself from his duties without permission or who fails to submit a doctor's certificate stating that his absence was due to illness shall forfeit two leave qualifying shifts for each day of absence.
- (7) For the purpose of this regulation the above conditions shall be deemed to come into force on the date of these regulations.
- (8) Leave or part thereof may be allowed to accumulate by agreement between the employer and employee: Provided that the total of the leave taken and accumulation shall not be less than the minimum period provided for in subregulation (1) hereof.
- (9) Any person who fails to comply with any provision of this regulation shall be guilty of an offence.

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SCHEDULE 1

FORMS

“A”

Republic of South Africa  
Department of Mines

**[The heading of Form A is substituted by RSA Proclamation R.89/1969. It is not clear if this substitution was meant to eliminate the form number “S.W.A. 441” and the word “RECEIPT”. They have been removed here, using the substituted Form C as a guideline.]**

PROSPECTING LICENCE No. ----

(Issued in terms of sections 20, 21 and 22 of Ordinance 20 of 1968)

LICENCE is hereby granted to (Name of holder in full) .....

Address .....

to search and prospect for precious and base minerals, except source material, in South West Africa, excluding:

- (a) Areas beyond the Police Zone;
- (b) Diamond Areas 1 and 2;
- (c) Native and Game Reserves;
- (d) Areas reserved from prospecting and pegging;
- (e) Areas held under deed of grant.

This licence is valid for a period of twelve months  
from ..... 196 ..... to ..... 196.....

Amount received: Rand .....	Rand	cent
Cent .....		

CLAIMS may be pegged on any day other than a Sunday or public holiday mentioned in the second schedule to the Public Holidays Act, 1952 (Act 5 of 1952) of the Republic of South Africa, between sunrise and sunset. [Section 23(2)].

**[The South African Public Holidays Act 5 of 1952 was replaced in South West Africa by the Public Holidays Act 7 of 1987, which was replaced in independent Namibia by the Public Holidays Act 26 of 1990.]**

.....  
Mining [Commissioner]

**REGULATIONS**  
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“B”

S.W.A. 134 E.

**NOTIFICATION OF THE PEGGING OF CLAIMS**  
**(In terms of section 26 of Ordinance 20 of 1968)**

I, ..... (full name(s))  
of ..... (Postal address) hereby notify the Mining Commissioner that I have  
pegged ..... (number) claim/s in the name of .....  
on farm ..... No .....  
The District of ..... belonging to .....  
of ..... (postal address) under Prospecting Licence No. .... as follows -

- (1) Ordinal No. allotted to each claim pegged: .....  
.....
- (2) The date of pegging of each claim: .....  
.....
- (3) The lengths of the sides of each claim are as follows: .....  
.....
- (4) Name(s) of mineral(s) it is expected to find on the claim(s): .....  
.....
- (5) A sketch plan in quadruplicate of the claim/s in accordance with the regulations is attached hereto, showing the farm boundaries in relation to the claim area with approximate distances to the nearest homestead and farm corner beacon.
- (6) I am enclosing the sum of R ..... in payment of the prospecting fees and owner’s dues for a period of six months calculated at R2 per claim per month, from the first day of the month in which the claim(s) was/were pegged.

I, ..... declare that the above details agree with the beacons as erected and that the relative prospecting licence was endorsed by ..... (name of owner or occupier), in accordance with the provisions of section 18(2) of Ordinance 20 of 1968.

.....  
*Signature Owner, Agent, Manager.*

(Particular attention is directed to the following sections and regulations of the Mines, Works and Minerals Ordinance 1968: Sections 19, 26, 28, 30, 38, 65 to 72 and regulations 1 to 8).

**REGULATIONS  
Mines, Works and Minerals Ordinance 20 of 1968**

**Regulations made under the provisions of the  
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“C”

[Form C amended by RSA Proclamation R.89/1969 and substituted by RSA GN 1730/1972]

REPUBLIC OF SOUTH AFRICA  
DEPARTMENT OF MINES

Reference No. ....

PERMIT ISSUED IN TERMS OF SECTIONS 28/43\* OF ORDINANCE 20 OF 1968

Permission is hereby granted to (name in full).....  
.....  
the holder of .....  
.....  
to carry out prospecting and/or mining operations\* as authorised by the abovementioned rights –

\* (a) subject to the conditions of a written agreement, dated ..... 19....., entered into between the permit holder and ..... , owner of the land;

\* (b) subject to the conditions determined on..... 19..... by the board referred to in section 68 of the abovementioned Ordinance and set out in the attached schedule;

\* (c) for a period of... ..... months ending. .... 19 .....

.....

Mining Commissioner

\* Delete whichever is not applicable.



**REGULATIONS**  
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**Mines, Works and Minerals Ordinance, 1968 (Ordinance 20 of 1968)**

“D”

Republic of South Africa  
Department of Mines

Reference No. ....

**[The heading of Form D is substituted by RSA Proclamation R.89/1969. It is not clear if this substitution was meant to eliminate the form number “S.W.A. 176”. It has been removed here, using the substituted Form C as a guideline.]**

**CERTIFICATE OF REGISTRATION/TRANSFER**  
(Issued in terms of sections 29(3) and 35 of Ordinance 20 of 1968)

The following is a true extract of the Prospecting Claims Register kept at the office of the Mining Commissioner, Windhoek: -

Registered holder of claims .....  
Address .....  
Number of claims pegged .....  
Farm ..... No. ....  
District .....  
Date of registration ..... Fees paid up to .....  
Date of transfer .....  
Claims pegged:

Ordinal Nos.	Registered Nos.	Date pegged	Ordinal Nos.	Registered Nos.	Date pegged

Transferred from .....  
Address .....  
.....  
.....

Drawn by .....  
Mining Commissioner



**REGULATIONS**  
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**SCHEDULE 2**  
**REGULATIONS REPEALED**

Number and date of Government Notice.	Extent of Repeal.
26 of 28 February 1940	The whole
33 of 13 February 1956	The whole