

MINES REGULATIONS*

PART I.—PRELIMINARY.

Short title.

1. These Regulations may be cited as the Mines Regulations.*

Parts.

2. These Regulations are divided into Parts, as follows:—

Part I.—Preliminary.

Part II.—Ventilation and Sanitation.

Part III.—Explosives.

Part IV.—Safety and Protection.

Definitions.

3. In these Regulations, unless the contrary intention appears—

“drive” means any passage in a mine in any direction or in any angle other than a shaft;

“excavation” means any cavity in or about any mine or workings, and includes any shaft, winze, drive, rise and all passages and workings in a mine;

“safety lamp” means an oil, gas, or electric lamp of a type approved by an inspector for use in an inflammable atmosphere;

“stope” means any workings in which a section or block of reef, which has been opened up by means of levels and their connections, is being removed.

PART II.—VENTILATION AND SANITATION.

Provision of
air.
Substituted by
1964, No. 8.

4.—(1.) An adequate amount of pure air shall be made to circulate through and into the shafts, outlets, winzes, rises, and all the working places of a mine, and the travelling ways to and from the working places, in such quantities as to maintain them in a fit state for working and passing therein.

(2.) Where the ventilation of any place is in the opinion of an inspector inadequate no work excepting such as is necessary for the purpose of remedying the condition shall be undertaken in that place.

(3.) Where the adequacy of ventilation is in dispute a decision shall be made by the Director of Mines.

* The Mines Regulations, in force under the *Mines Regulation Ordinance 1939–1962*, comprise the following Regulations:—

Year and Number	Date on which made	Date notified in <i>Northern Territory Government Gazette</i>	Date of Commencement
1939, No.— ..	1st November, 1939 ..	10th November, 1939 ..	(See Note below)
1964, No. 8 ..	2nd July, 1964 ..	15th July, 1964 ..	15th July, 1964
1964, No. 14 ..	17th September, 1964 ..	30th September, 1964 ..	30th September, 1964
1964, No. 15 ..	16th November, 1964 ..	25th November, 1964 ..	25th November, 1964

Note.—The Mines Regulations made on 1st November, 1939, were expressed to come into operation forthwith.

4A.—(1.) Any part of a mine that is disused may be shut off from the ventilation system, and in the part so shut off, the regulation as hereinafter required shall not be enforced.

Closing of parts of a mine.
Inserted by 1964, No. 8.

(2.) All parts so shut off shall be noted in the Record Book and shall be securely closed off from the parts of the mine in use.

(3.) Before work is resumed in any workings that have been disused, the ventilation of these shall be thoroughly restored.

4B.—(1.) The air in any working place shall be deemed to be adequate for the purpose of regulation 4 of these Regulations if—

Minimum standards of purity of air.
Inserted by 1964, No. 8.

(a) it contains not less than twenty parts per centum by volume of oxygen;

(b) it contains not more than—

- (i) .25 parts per centum of carbon dioxide;
- (ii) .01 parts per centum of carbon monoxide;
- (iii) .0005 parts per centum of the oxides of nitrogen; and
- (iv) .0025 parts per centum of sulphuretted hydrogen by volume; and

(c) it shows a count not in excess of 300 particles per cubic centimetre of dust which is 5 microns or less in diameter or a count not in excess of such lower number of particles as an inspector may require having regard to the conditions of the particular working place. Such counts shall be determined by finding the average of not less than six counts with a konimeter caused to be taken by an inspector and counted using dark field illumination.

(2.) The Director of Mines may direct that a particular method or apparatus be used in the determination of the purity of air used in a mine.

4C. Main air currents passing through every mine shall, as far as practicable, be regulated so that the air shall pass through the workings from inlet to outlet, without local circulations, that is, the same air shall not be allowed to return repeatedly through the same place.

Re-circulation of air.
Inserted by 1964, No. 8.

4D. In filling stopes, or in shrinkage stopes, rearings or passes shall be constructed so as to leave open airways between the filling or broken ore and the unbroken ground.

Airways in filled stopes.
Inserted by 1964, No. 8.

4E.—(1.) Air doors, stoppings, cross-overs and brattices shall be provided where necessary for the regulation of the ventilation air currents and shall be maintained in good order and condition.

Stoppings and doors.
Inserted by 1964, No. 8.

(2.) All air doors shall be so erected that they shall close automatically and remain closed, and any air door not in use shall be lifted off its hinges or bolted to the wall timber.

4F. In every mine there shall be constructed as soon as practicable one or more airways independent of the main shaft or other principal entrance of the mine from the surface to the lowest level of the mine, of sufficient area to allow the passage of the amount of air required to ventilate all the parts of the mine served by such airways and they shall be maintained open and unobstructed except when it may be necessary to close some of them to regulate and properly distribute the air through the workings.

Return airways.
Inserted by 1964, No. 8; amended by 1964, No. 14.

Additional
mine workings.
Inserted by
1964, N. 8.

4G. If required by an inspector additional rises, chambers, drives or other workings shall be constructed to ensure adequate ventilation of the workings.

Connections
between
adjacent
mines.
Inserted by
1964, No. 8.

4H.—(1.) All excavations by which two mines are connected shall, if considered necessary by an inspector, be kept open for ventilation and escape; but the inspector may order any such connections to be closed if he considers the ventilation conditions will be improved thereby.

(2.) If, in the opinion of the Director of Mines, compliance with an order given under the last preceding sub-regulation entails any expense in connection with the regulating and conducting of hot, moist or foul air from one mine through the workings of any other mine for the purpose of improving the working conditions of the men employed in either mine, such expense shall be borne by the owners of such mines in such proportions as the Director of Mines shall direct.

(3.) Adjacent mines shall be connected by such excavations as are deemed necessary by the Director of Mines for the purposes of ventilation and escape, and such connections shall be made at the expense of the owners of such mines, or of such of them and in such proportions, as the Director of Mines may direct.

Ventilating
machines.
Inserted by
1964, No. 8.

4I. If, in the opinion of an inspector, the state of the ventilation in part of the mine is unsatisfactory and there is no immediate prospect of improvement of the ventilation by the connection of workings he may, in writing, require that ventilating machines shall be provided and used.

Development
ends.
Inserted by
1964, No. 8.

4J.—(1.) No development end or winze where a machine drill is used shall be advanced more than ten feet from a through air current and no working shall be taken off such development end or winze at a distance greater than ten feet from a through air current unless ventilating equipment is installed delivering air through pipes to the face with sufficient volume and velocity to remove and dilute the dust.

(2.) Any person who, wilfully or through negligence, damages or misuses any ventilating equipment or installation or who fails to use them where provided shall be guilty of an offence.

Restoration of
ventilation.
Inserted by
1964, No. 8;
amended by
1964, No. 14.

4K. The manager of a mine shall ensure that where the ventilation system has been shut down or the quantity of air circulated has been reduced at weekends, holidays or at any other time, no man shall be allowed to enter any working place in the mine until adequate ventilation has been restored.

Ventilation of
winzes.
Inserted by
1964, No. 8.

4L.—(1.) No charge shall be fired in a winze, or any workings from a winze unless an air hose or air pipe has been installed to discharge compressed air to the bottom of the winze, or to the face of any working from such winze and secured in such a manner as is approved by the inspector.

(2.) The discharge end of the hose or pipe shall be secured so as to discharge air at not more than 20 feet from the bottom or working face.

(3.) The master valve controlling the supply of air to a winze or any intermediate workings within 20 feet of such winze shall be situated at the brace or top of the winze and no other valve shall be allowed in the winze except by permission in writing of an inspector.

4M. The supply of air for any ventilating machine or air compressor which forces air into the workings shall be drawn from the purest sources practicable.

Purity of air t
machines.
Inserted by
1964, No. 8.

4N.—(1.) Air-receivers and the pipes connecting them with the compressor shall be blown out every day.

Removal of
water from
air mains.
Inserted by
1964, No. 8.

(2.) Air mains from compressors and all branch mains therefrom on all levels in a mine shall be furnished with sufficient traps, of an approved type, to remove accumulations of water, and water shall not be allowed to blow through to the working faces. Traps shall be blown off at least once in every shift.

4P.—(1.) Where dust is produced in the course of mining operations underground, or in any quarry, or in any rock crushing plant or reduction mill, to such an extent that the health of the workmen may be endangered thereby, the owner or manager of the mine or quarry shall make provision for preventing or allaying such dust or otherwise for mitigating the danger to persons liable to inhale such dust.

Prevention of
dust.
Inserted by
1964, No. 8.

(2.) A person shall not work in or cause or allow another person to work in any underground place, quarry, rock crushing plant or reduction mill until the owner or manager has complied with the last preceding sub-regulation.

Amended by
1964, No. 14.

(3.) A person shall not be deemed to have complied with sub-regulation (1.) of this regulation unless he has installed appliances of a type approved by an inspector which are effective to lay or collect the dust.

(4.) Where, in the opinion of an inspector, the dust from tailing dumps, or any other heaps of waste rock or mill residues on a mine is a nuisance to persons employed on them or in the vicinity, and detrimental to their health, he shall give notice in writing to that effect and the manager shall thereupon provide and cause to be constantly used such appliances as will effectively lay or collect the dust.

(5.) The water that is used either on surface or underground for the purpose of laying dust shall be free from pollution with noxious matter.

4Q.—(1.) When required by an inspector, the direction, course and volume of the air currents and the positions of all air doors, stoppings, fans, and ventilating devices throughout the mine shall be marked on the plans and sections required to be kept at the mine.

Ventilation.
Inserted by
1964, No. 8.

(2.) An inspector may require a copy of the ventilation plans to be supplied to him.

4R.—(1.) The manager of a mine, when required in writing to do so by an inspector, shall appoint dust and ventilation officers whose duty it shall be to examine and report on at times specified by the inspector—

Ventilation
officers.
Inserted by
1964, No. 8.

- (a) the quality, distribution and use of the water used for laying dust;
- (b) the condition of the appliances for collecting and laying dust at each working place and elsewhere;
- (c) the dust sampling of the mine, more particularly as regards the development ends;
- (d) temperature readings in working places; and

- (e) the condition of the mine relating to ventilation and health more particularly as regards the amount of air supplied during the interval after blasting and before entry and during the working shift in all development ends in which there is no through current of air.

(2.) The manager shall notify the inspector in writing of the name of the person or persons appointed from time to time.

(3.) The conditions as found by such person at the completion of each examination shall be entered by him in the Record Book and a copy forwarded to the inspector.

(4.) Such entries shall be examined and countersigned by the manager or underground manager.

Air quantities.
Inserted by
1964, No. 8.

4s.—(1.) The quantity of fresh air, excluding compressed air, supplied underground in a mine shall be not less than 200 cubic feet per minute for every man normally employed underground.

(2.) The current of fresh air supplied shall be suitably split and each working place shall receive not less than 200 cubic feet per minute per person employed therein.

(3.) The quantity of air circulating underground in a mine shall be determined at least once in every three months and recorded in the Record Book.

**Entry after
blasting.**
Inserted by
1964, No. 8.

4t. No person shall enter any working place after blasting has taken place until the fumes and toxic gases arising from the explosion have been effectively dispersed.

**Acid treatment
of slimes.**
Inserted by
1964, No. 8;
amended by
1964, No. 14.

4U. All vessels used for the acid treatment of zinc slimes from the cyanide process shall be fitted with ventilation hoods or other appliances which shall prevent the fumes from entering the air breathed by the workmen engaged in that process and shall discharge to the atmosphere in such a manner as to cause no inconvenience to other persons.

**Noxious fumes
from
metallurgical
processes.**
Inserted by
1964, No. 8.

4v.—(1.) In every case where fumes and toxic gases which, in the opinion of an inspector are noxious and dangerous to persons, are likely to escape from any furnace or other plant used in connection with any metallurgical processes in quantities or under conditions such that the health or life of persons engaged in, on or about the premises in which the metallurgical process is carried on, is likely to be endangered such furnace or other plant shall be equipped with suitable devices as may be approved by the Director of Mines to remove such fumes or toxic gases from the presence of the workmen employed.

**Remedy for
fume poisoning.**

(2.) A supply of remedies including oxygen and approved appliances for the treatment of men suffering from fumes of explosives or other noxious gases, with instructions for their use, shall be kept at every mine employing more than ten men underground.

**Use of
cyanide tailings.**
Inserted by
1964, No. 8;
amended by
1964, No. 14.

4w. Tailings used for filling worked out ground shall not contain more free cyanide than is equivalent to 0.01 per cent. of potassium cyanide and a strong current of air shall be maintained through any workings which are being filled with such tailings so long as men are working and passing therein.

4x. The owner, manager and agent of a mine or quarry shall ensure that the standards of ventilation prescribed by these Regulations are observed. Inserted by 1964, No. 8.

Penalty: Fifty pounds.

4y.—(1.) Where the Director of Mines is of the opinion that the ventilation in a mine does not conform with the standards prescribed in these Regulations or that by reason of the lack or insufficiency of ventilation the life or health of a person employed in the mine is endangered he may by notice in writing require the owner, manager or agent of the mine to do such work or install such appliances for the ventilation or the better ventilation of the mine as are specified in the notice. Inserted by 1964, No. 8.

(2.) A person to whom a notice under the last preceding sub-regulation is given shall comply with the terms of the notice.

Penalty: Fifty pounds.

4z. Where the Director of Mines is satisfied that it is impracticable or unnecessary to apply regulations 4 to 4y inclusive of these Regulations to a mine or part of a mine, he may by notice in writing, subject to such conditions and for such time as he thinks fit, exempt that mine or that part of the mine from the provisions of regulations 4 to 4y inclusive of these Regulations. Inserted by 1964, N. 8.

5. Adequate provision shall, to the satisfaction of an inspector, be made in every mine for cleanliness and sanitation. Cleanliness and sanitation.

PART III.—EXPLOSIVES.

6.—(1.) Explosives shall be stored in a main magazine or in a distributing magazine. Storage of explosives.

(2.) A main magazine shall be—

- (a) a building on the surface of the ground at a distance of not less than one hundred yards from any other buildings, works or public road, surrounded by substantial mounds of earth at least four feet in thickness to a height level with the eaves of the building;
- (b) an excavation in the ground so arranged that the roof shall not be less than fifteen feet below the surface of the ground; or
- (c) a drive or chamber in an upper level of the workings of the mine connected with the surface by an independent air-pass and connected with the workings of the mine by a passage describing in its course at least one right angle, and situated at a distance of not less than sixty feet from any travelling road or underground thoroughfare or such distance of not less than thirty feet as is permitted by an inspector.

7. The construction, lining and ventilation of every main magazine shall be approved by an inspector, and it shall be protected by doors so constructed and secured as to render it safe from unauthorized entry. Construction of main magazine.

Quantity of
explosives in
main magazine.

8. The quantity of explosives which may be stored in a main magazine shall be—

- (a) where the magazine is constructed as provided in paragraph (a) of sub-regulation (2.) of regulation 6—a quantity not exceeding five hundred pounds;
- (b) where the magazine is constructed as provided in paragraph (b) of sub-regulation (2.) of regulation 6—a quantity not exceeding two thousand pounds; and
- (c) where the magazine is constructed as provided in paragraph (c) of sub-regulation (2.) of regulation 6—such quantity, not exceeding one week's supply, as is certified by an inspector, together with such extra quantity, not exceeding one thousand pounds, as is certified by an inspector as being reasonable for emergencies.

Distributing
magazine.

9. A distributing magazine may be situated in any working level of a mine, and shall consist of a drive or chamber at least thirty feet from any travelling road and separated therefrom by a door so placed and fitted as to render it secure from unauthorized entry.

Quantity of
explosives in
distributing
magazine.

10. The quantity of explosives which may be stored in a distributing magazine shall not exceed the supply required for one working day in the level in which the distributing magazine is situated.

Explosives to
be covered.

11. No explosives shall be taken into a working face except in a securely covered case or canister of size and construction approved by an inspector, or in any quantity not exceeding that which would be required for use during one shift in such face, and no person or persons shall have in use at any one time in any place more than one such case or canister.

Detonators.

12.—(1.) Detonators shall not be sent below ground in the workings of a mine unless attached to fuses in the form of “rods” and all fuses to be used for firing charges of explosives shall be prepared in daylight, under cover, by being cut into required lengths with a sharp instrument, and detonators shall be placed on the fuse and crimped thereto in a manner approved by an inspector.

(2.) The distribution of capped fuses shall be undertaken in accordance with the provisions of the sub-regulation (1.) of this regulation.

Main magazine
to be in charge
of person.

13.—(1.) Every main magazine shall be in charge of a person appointed by the manager for that purpose, and he shall be responsible for the safe storage of explosives contained therein.

(2.) The distribution of all explosives from any distributing magazine shall be under the supervision of a person appointed by the manager for that purpose.

Closing of mine.

14. When a mine or part of a mine is closed, the explosives stored therein shall be removed and shall be disposed of as an inspector requires.

Storage of
explosives to be
under direction
of inspector.

15. The storage of explosives in a mine shall be under the direction of an inspector who shall at all times have access to any magazine or receptacle used for the storage of explosives in connexion with a mine.

16.—(1.) A person with a naked light shall not enter a magazine or Naked lights. any excavation in a mine where explosives or any inflammable substances are stored and suitable and covered lights shall be provided for the use of persons whose duty it is to enter the magazine.

(2.) No charge shall be made up in a magazine.

17. In charging holes for blasting, iron or steel tools shall not be used, Blasting holes. in tamping or ramming, and an adequate supply of tools approved by an inspector for this purpose shall be provided for use.

18.—(1.) A charge of explosives which has missed fire may be drawn Explosives missing fire. by a copper pricker, but in no case shall any iron or steel tool be used for the purpose of drawing or drilling out such a charge.

(2.) A charge intended to be exploded by means of a detonator shall not be drawn by any sort of tool, but shall be reprimed and fired.

(3.) A charge of explosives which has missed fire shall not be approached until one hour has elapsed from the time of lighting the fuse.

Provided that this regulation shall not apply to charges fired by an electric current where the conducting wires are first disconnected.

19.—(1.) No hole shall be bored in the butt or the remaining portion Boring, etc., of holes where charge fired. of a hole in which a charge of nitro-glycerine compound has been previously exploded.

(2.) No hole which has been fired shall be recharged until it has been thoroughly cooled or washed out with water, an adequate supply of which shall be kept in the mine for that purpose.

20.—(1.) When explosives are used in any mine, the persons charging Responsibility of persons firing explosives. and firing the explosives shall be jointly and severally responsible for the proper handling and firing thereof.

(2.) A person firing explosives shall forthwith report the position of any charged holes and misfires to the person relieving him, or to the manager.

(3.) When a hole is known to have missed fire, the person who charged it shall place a barricade or other obstruction around it and notify the fact of such misfire.

21. When more than three charges of explosives are being fired at one Firing of more than three charges. time in any working face in a mine, not less than two persons shall fire the charges and when both persons cannot retire together from the firing point without impeding one another, one of them shall retire to a safe position immediately before the fuses are lighted, but shall not leave the vicinity until he knows that the other has reached a place of safety.

22. No person under the age of eighteen shall handle, charge or fire Person under 18 not to use explosives. explosives.

23. No charge of an explosive shall be fired unless the person firing Warning to be given. the charge has given adequate warning to all persons in the vicinity who are likely to be injured by the firing and advise them of the location and number of all charges to be fired by him.

24. The manager shall appoint a time for firing explosives in any mine. Time for firing explosives.

Magazines not
to be used to
store explosives
for sale.

25. A main magazine or distributing magazine shall not be used as a store for explosives kept for the purpose of sale.

PART IV.—SAFETY AND PROTECTION.

Provision of
signalling and
man-holes.

26.—(1.) Every underground plane on which persons travel, whether self-acting or working by an engine, whim or whip, shall, if exceeding forty yards in length, be provided with adequate appliances for signalling between the stopping places and the ends of the plane and shall be provided in every case, at intervals of not more than twenty yards, with sufficient man-holes for places of refuge.

(2.) Every road on which persons travel underground shall be provided with man-holes at such places as may be required by an inspector.

(3.) Every man-hole shall be constantly kept clear of anything likely to interfere with access thereto, and no person shall so place anything in any man-hole as to prevent access thereto.

Shafts to be
fenced. a

27.—(1.) The top of every working or pumping shaft, and all entrances between the top and bottom thereof, shall be properly and securely fenced or covered:

Provided that a fence may be temporarily removed for the purpose of repairs or other operations where precautions are taken to preclude any danger arising from the temporary removal.

(2.) Every ladder shaft and every working or pumping shaft shall be securely timbered, lined or otherwise made secure.

Drives, etc., to
be protected.

28. Every drive, winze, rise or stope, and every excavation of or in connection with the working of the mine, whether at the surface or underground, shall be securely protected and made safe for persons employed therein.

Portions of
shaft to be
cased off.

29. Where one portion of a shaft is used for the ascent or descent of persons by a ladder, cage or skip and another portion of the same shaft is used for lowering or raising material, the former portion shall be cased or otherwise securely fenced off from the latter portion.

Guides and
signalling
appliances.

30. Every working shaft in which a cage or skip is used, and every division of such shaft in which persons are lowered or raised shall be provided with guides and adequate appliances for communicating distinct and definite signals—

(a) from the bottom of the shaft, and from every entrance for the time being in work between the surface and the bottom of the shaft, to the top thereof and thence to the engine-room; and

(b) if required by an inspector, from the engine-room and the top of the shaft to the bottom thereof and to and between every entrance for the time being in work between the top and bottom of the shaft.

31. The methods of signalling in any mine shall accord with the following code and rules, in which "knock" includes "ring" and "pause" means the space of time required for making two knocks or rings:—

A. General signals:—

- 1 knock: Stop when in motion; hold fast when stationary.
- 2 knocks: Lower.
- 3 knocks: Raise.
- 4 knocks: Men on, raise to surface. Cage not to be moved for 6 seconds after receiving this signal.
- 5 knocks: Tools on cage. Cage not to be moved until the signal is given for the place to which tools are to be sent.
- 6 knocks: Firing warning.
- 7 knocks: Change tanks or cages.
- 8 knocks: Change to raise from a different level.
- 9 knocks: Cage required by other than platman. (Level signal to be also given.) To be used where no call bell or telephone is available.
- 10 knocks: Accident occurred. (To be followed by signal of level.)
- 15 knocks: Doctor and ambulance required.

B. Level signals:—

- 1 knock, pause, 1 knock; No. 1 Level
 - 1 knock, pause, 2 knocks; No. 2 Level
 - 1 knock, pause, 3 knocks; No. 3 Level
 - 1 knock, pause, 4 knocks; No. 4 Level
 - 1 knock, pause, 5 knocks; No. 5 Level
 - 2 knocks, pause, 1 knock; No. 6 Level
 - 2 knocks, pause, 2 knocks; No. 7 Level
 - 2 knocks, pause, 3 knocks; No. 8 Level
 - 2 knocks, pause, 4 knocks; No. 9 Level
 - 2 knocks, pause, 5 knocks; No. 10 Level
 - 3 knocks, pause, 1 knock; No. 11 Level
- and so on in series.

} Lower or raise (as the case may be.)

All signals from level to level mean that men are being lowered or raised.

C. Sinking Signals:—

(For use in all cases where—

- (i) a shaft is being sunk and winding is taking place from the bottom of the shaft—

- (a) directly to the top of the shaft, by means of the main winding engine; or

- (b) to a station underground, by means of the main winding engine or of an auxiliary winding engine; or

- (ii) firing in close proximity to the shaft and the firing is likely to cause injury to the cage passing.)

1 knock: Men on, raise.

6 knocks: Firing warning.

On receiving the firing warning, the engine driver of the winding engine shall raise the bucket or cage at least a distance represented by one revolution of the engine, lower it again for the same distance and stand by ready until he receives the signal to raise, when he shall raise carefully.

D. Signals when repairing or timbering shafts:—

When persons are engaged in repairing or timbering work in any shaft, notice of the fact shall be given by the person in charge of the repairing or timbering work and every engine driver who comes on duty. Thereupon the signal to lower (2 knocks) or to raise (3 knocks) shall be taken, respectively, as meaning that persons are to be lowered or raised, and the winding shall be done slowly and with care.

E. Signals when lowering or raising persons:—

Before signalling the level to which persons are about to be lowered, the bracman shall notify the engine driver by special signal that the persons are on the cage.

A person shall not attempt to get on any cage, or to put on or take off any tools or materials from, or otherwise use, any cage left or suspended at or opposite any level without first ascertaining by signals sent and received, that the engine driver is in control of the engine.

Any person using a cage in any shaft shall, immediately upon leaving the cage and before leaving the plat, notify the engine driver that the cage is at liberty by signalling "lower" or "raise", and the engine driver shall not move the cage until he receives the signal that it is at liberty.

The engine driver shall not move the cage or other attachment after receiving any signal (except that of the firing warning mentioned in this regulation under the heading "sinking signals") for at least:—

- (i) two pauses, when lowering or raising materials; or
- (ii) six seconds, when lowering or raising persons.

**Method of
signalling.**

32.—(1.) A verbal signal or communication shall not be made up or down a shaft exceeding sixty feet in depth, in which a cage or skip is used, except through a telephone or speaking tube which shall, whenever practicable, be placed in a portion of the compartment not used for lowering or raising.

(2.) A line or other appliance approved by an inspector shall be provided in every shaft to enable danger signals to be communicated to the engine-driver from every portion of the shaft.

(3.) Every person employed in a mine shall make himself acquainted with the system of signals used in the mine.

**Ladders and
footways.**

33.—(1.) In every shaft in which no machinery, other than a whim, whip or windlass, is used for lowering or raising persons, a ladder or footway shall be provided.

(2.) In every shaft in which machinery is used for lowering or raising persons, a ladder or footway shall be provided in addition to such machinery, except where persons working in the shaft have some other safe means of exit.

34. When the usual egress from a mine is by means of machinery worked by steam, water or mechanical power, the machinery shall be always kept ready for use, and the person in charge thereof shall so remain in charge while any person is below in the mine.

Machinery to be kept ready for use.

35. An engine-driver shall have a clear view between his station and the shaft at the surface brace:

Engine-driver to have clear view of shaft.

Provided that a depth indicator fitted to each drum may be used if, in the opinion of the inspector, it will efficiently provide for safety.

36.—(1.) Every machine used for lowering or raising persons shall be fitted with flanges or horns on the drum, and, if the drum is conical, with such appliances as are, in the opinion of an inspector, sufficient to prevent the rope from slipping.

Machines to be fitted with flanges, etc.

(2.) Every machine worked by steam, water or mechanical power, and used for lowering or raising persons, shall be fitted with an adequate brake, and with an indicator showing to the person who works the machine the position of the cage or load in the shaft.

37. A person in charge of or having the control of any engine or winch driven by steam, air, gas, oil or electricity and used in connexion with the working of a mine shall not, for any reason whatever during the period for which he is in charge, absent himself from, or cease to have effective supervision over, the engine or winch, unless he is relieved by a person qualified to control such engine or winch.

Person not to absent himself from engine.

38. The rate of speed of a cage, skip or bucket used for lowering or raising any person shall not exceed two hundred feet per minute when the cage, skip or bucket is within one hundred feet of the surface, or five hundred feet per minute when it is in any other part of the shaft.

Speed of cage.

39. Except when the shaft is being repaired, iron, timber, tools, rails, sprags or other material, shall not be placed on the same cage, carriage, receptacle or platform in which any person is being raised or lowered in the shaft.

Materials not to be raised or lowered on the same cage as men.

40. All machinery, whether above or below ground, shall be kept in good order and condition.

Machinery to be kept in good order.

41. Every brace or pit-bank shall be sufficiently covered to protect persons working thereat from the inclemency of the weather.

Braces to be sheltered from weather.

42. A person under the age of eighteen years shall not be employed as lander or brace-man in any mine, and the brace and all elevated tramways shall be securely fenced off.

Limit of age for landers and bracemen.

43. A person shall not wilfully damage or without the authority of the manager use, remove, or render useless any timber, fending, casing, lining, guide, signalling appliance, signal cover, chain flange, horn brake, indicator, ladder, platform, steam gauge, water gauge, safety valve or other appliance or thing provided in a mine.

Wilful damage.

Boring rods and safety lamps to be used.

44.—(1.) In every working in the proximity of any part of a mine which is likely to contain a dangerous accumulation of water or gas, boring rods shall be kept and used for the purpose of perforating the ground of, or near, or at an angle from, the working to such a distance in advance as to insure safety, and no drive, gallery or other excavation shall be made within a dangerous distance of such accumulation of water or gas until the ground has been so tested.

(2.) Safety lamps shall be provided for use in all places where there is reason to suspect the presence of inflammable gas and a rise shall not be made within ten feet of any portion of a winze in which there is, in the opinion of an inspector, a dangerous accumulation of water, unless such winze is first unwatered by bailing or pumping or by means of a bore from the rise.

Inspection by manager.

45. The manager, or a qualified person appointed by him, shall, once in each week, carefully examine the mine and the buildings and machinery used in the working of the mine, and shall record in writing and sign, in the Record book, his opinion as to their condition and safety, and the particulars of any repairs or alterations which he thinks necessary.

Shafts with ladders to have platforms.

46. Every ladder constructed and fixed in a shaft for the ascent and descent of persons working in the mine shall be inclined at the most convenient angle which the space allows, and any ladder in a shaft or part of a shaft shall have substantial platforms at intervals of not more than thirty feet and spaces for foothold approved by an inspector.

Overhead cover on cage.

47. A suitable overhead cover securely hung on hinges shall be provided on every cage used for lowering or raising persons in every working shaft.

Cage to be fitted with side catches.

48.—(1.) Every cage or skip used in a shaft for lowering or raising persons shall, when required by an inspector, be fitted with—

- (a) side catches;
- (b) special and suitable appliances to prevent its sudden fall down the shaft; and
- (c) a safety hook with suitable detaching appliances fixed to the poppet heads.

(2.) A safety hook that will not suspend a cage at the poppet head when detached from the rope shall not be fitted to a cage or skip.

Cages to be tested.

49.—(1.) Every cage or skip shall be tested by an inspector, and shall not be used unless it is provided with all such appliances as he requires.

(2.) The manager, or a person appointed by him, shall test the cages and skips at least once in every two weeks, and enter the result in the Record Book.

(3.) All cages shall be tested from the drums with full and empty trucks.

Safety hooks to be examined.

50. All safety hooks and catches shall, at least once in every month, be taken to pieces, examined, cleaned and oiled by a competent person, who shall record the fact in the Record Book.

51. A suitable light, protected from draughts of air, shall be provided in— Lights in working levels.

- (a) every working level;
- (b) every working plat; and
- (c) the upper entrance to every winze, chute or pass which is open or unfenced.

52.—(1.) A ladder or other means of ascent shall be provided in a winze and rise which is in course of construction, or used as a travelling way to give access from the lower to the higher levels in a mine. Ladders in winzes, etc.

(2.) During sinking operations in any shaft or winze a chain or other form of ladder shall be provided so as to ensure a safe means of exit.

53.—(1.) Where in any mine more than four persons are usually employed underground in one shift, sufficient accommodation shall be provided above ground, near the principal entrance of the mine, to enable the persons employed in the mine to conveniently dry and change their clothes. Accommodation for changing.

(2.) The accommodation shall be near the principal entrance of the mine and shall not be in the engine-room or boiler house.

(3.) In no case shall any clothes be changed or dried upon a boiler.

54. When a fence has been temporarily removed from an entrance to a shaft in order to allow ordinary mining operations to be carried on, a strong horizontal bar or gate shall be securely fixed across the entrance not less than four feet nor more than five feet from the floor of the brace, chamber, or drive, as the case may be. Temporary removal of fence from shaft.

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Reg. 55 repealed by 1964, No. 8.

56. Waste timber and refuse in underground workings shall not be piled up and permitted to decay, but shall be removed as soon as practicable. Waste timber to be removed.

57. A person shall not—

- (a) give or cause to be given any wrong signal; or
- (b) ride upon any cage or skip when signals have informed the engine-driver that no person is so riding.

Wrong signals.

58. The manager shall post up and keep so posted at the surface brace a notice of the maximum number of persons permitted to ride at one time on a cage or skip. Maximum number of men in cage.

59. Where winding operations have been discontinued in any shaft for a period of more than eight hours, the cage or skip shall, before any person is lowered or raised therein, be run up or down that portion of the shaft in which any person requires to ascend or descend. Trial run of cage, etc., in shaft.

60.—(1.) Before any rope is used for winding in a shaft, the manager shall test it or cause it to be tested in order to ascertain the breaking strain thereof. Ropes to be tested.

(2.) A rope used for winding shall not be used unless an inspector is satisfied that it will carry at least twice the weight which it is anticipated it will ordinarily be required to carry which weight shall include the weight of—

- (a) the cage or skip;
- (b) a loaded truck; and
- (c) the rope from the bottom of the shaft to the pit-head pulley.

(3.) The working load of a rope used for winding shall not exceed one-eighth of the breaking strain of the rope when new and if the breaking strain of any such rope does not exceed six times the working load, the rope shall not be used for hauling.

(4.) A rope used in shafts for lowering or raising persons shall be tested at such intervals as are required by the inspector.

(5.) A rope used for winding shall be re-shod at least once in every six months or at such intervals as is required by the inspector who may require portions to be cut off and tested for torsional and tensile strength by such methods as he approves.

(6.) The result of any test made under this rule shall be kept at the mine, and shall be signed by the person making the test who shall enter the result in the Record Book.

(7.) Suitable appliances shall be kept in a mine for cleaning and oiling ropes.

Chains.

61. A chain shall not be used for lowering or raising persons in any shaft:

Provided that two single link chains of uniform size each having a breaking strain of not less than eight times the weight of the load upon it may be used in respect of each coupling.

Underground winches.

62.—(1.) Every winch or machine worked underground by steam, compressed air, or other motive power for hauling purposes shall be provided with an efficient pressure gauge approved by an inspector to indicate to the person in charge the amount of pressure available for working it.

(2.) The steam, air, or other motive power used underground shall not be cut off unless and until the person in charge of the generating plant on the surface has received express instructions so to do from the driver of the winch or machine.

Guides in shafts.

63. In every vertical shaft in which persons are raised by machinery, other than machinery operated by hand labour, guides shall be provided to within sixty feet of the bottom of the shaft, and there shall be provided and used sufficient means and appliances for steadying the load.

Aid for injured persons.

64. When more than thirty persons are ordinarily employed underground, ambulances, stretchers and surgical requisites shall be kept at the mine ready for immediate use in case of accidents.

Bearers to be approved.

65. When bearers are used at plats in shafts to support cages or skips, they shall be of a pattern approved by an inspector.

Pent-houses.

66.—(1.) When any shaft is being sunk below levels therefrom which are being worked, it shall be protected below such levels by a securely constructed pent-house approved by an inspector.

(2.) When required by an inspector, a pent-house shall be constructed in any shaft.

Box method of rising.

67. In every vertical rise and in a rise which has an inclination of less than thirty degrees from the vertical and is intended to be more than thirty feet in height above the recognised back, the box method of rising shall be adopted, and no such rise shall be constructed to a greater height except by such method.

68.—(1.) A printed copy of the regulations for the time being in force shall be posted in the office of the mine and on a building or board in some conspicuous place on the mine, and shall be maintained in a legible condition.

Printed copy of
rules to be
posted.

(2.) Any person who wilfully damages, injures, defaces or removes any such printed copy of the regulations shall be guilty of an offence.

69. A person shall not contravene or fail to comply with a provision of these Regulations.

Offences.
Inserted by
1964, No. 8.

Penalty: Fifty pounds.