
STATUTORY INSTRUMENTS

1956 No. 1943

**The Stratified Ironstone, Shale and Fireclay
Mines (Explosives) Regulations 1956**

PART V

Shot firing—all mines

Drilling and cleaning shot holes

19.—(1) No person shall drill a shot hole or any part thereof with a drill of which the diameter does not exceed by at least one eighth of an inch the diameter of any cartridge to be inserted in that shot hole.

(2) No person shall for the purpose of testing, charging or stemming any shot hole use any tool other than a tool, made wholly of wood, suitable for the purpose.

20.—(1) No person shall begin to charge any shot hole unless it is thoroughly cleaned out.

(2) No person shall use compressed air to clean out any shot hole unless he ensures that the giving off of any dust is minimised.

Charging shot holes

21.—(1) No person shall charge a shot hole unless he is—

- (a) a shot firer;
- (b) a person doing so under the supervision of a shot firer; or
- (c) a person appointed to fire shots by fuse.

(2) No person shall charge a shot hole, and no shot firer shall permit a shot hole to be charged, before it is necessary to do so for the purpose of firing a shot.

(3) No person shall begin to charge any shot hole unless he has satisfied himself by taking all reasonable precautions that it is so placed and drilled as to be safe for the firing of a shot.

(4) Except in the case of shots to be fired in one round or of a relieving shot fired in pursuance of the provisions of any scheme for the time being in force at the mine in pursuance of regulation forty-two for the purposes of a miss-fire, no person shall charge a shot hole (in the case of longwall working) within ninety feet of a charged shot hole or (in any other case) in the same face as a charged shot hole.

(5) No person shall charge a shot hole to be fired as one of a round in a cross measure drift, heading or ripping or in a shaft or staple-pit until all shot holes for that round have been completely drilled.

22.—(1) No shot firer or person appointed to fire shots by fuse (as the case may be) shall permit more than one canister of explosives to be open at any one time for the charging of shot holes by him or (in the case of a shot firer) under his supervision.

(2) No person shall charge a shot hole—

- (a) otherwise than with a complete cartridge or complete cartridges; or
- (b) with cartridges of different diameters or of explosives of different descriptions.

(3) No person shall press any cartridge into a shot hole if it cannot be inserted without the use of force.

(4) Any person charging a shot hole shall to the best of his judgment ensure that it is not overcharged having regard to the task to be performed.

23.—(1) Except as may be provided in any scheme for the time being in force at the mine in pursuance of regulation forty-two, no person shall insert a detonator into a shot hole if that hole already contains a detonator.

(2) No shot firer shall fire a shot by means of a detonator and fuse other than safety fuse capped with a detonator at a workshop in accordance with regulation five.

(3) No shot firer shall use any detonator in firing a round of shots electrically in any mine unless it is a low tension detonator or a delay detonator.

(4) No shot firer shall use a delay detonator unless it is clearly marked with a number which indicates the period of delay.

(5) Where a delay detonator is to be used and the charge is to consist of more than one cartridge, the person charging the shot hole shall insert the primer cartridge first with the detonator at the back of the hole.

24.—(1) Any person charging a shot hole shall ensure that it is stemmed with sufficient suitable and non-inflammable stemming to prevent a blown out shot.

(2) Except where a device for pneumatic stemming approved by the Minister is being used, no person shall insert any tool not made entirely of wood into a shot hole containing explosive.

25.—(1) No person shall remove any stemming from any charged shot hole otherwise than by means of water.

(2) No person shall pull out any detonator lead from any charged shot hole.

(3) No person shall remove any explosive from any charged shot hole except a cartridge of explosive which is protruding out of the mouth of the hole.

Firing shots

26.—(1) No shot firer or person appointed to fire shots by fuse (as the case may be) shall fire any shot unless (except in the case of a shot being fired by him in accordance with the provisions of a scheme described in the proviso to the next following paragraph and for the time being in force) he has satisfied himself by taking all reasonable precautions that it is in a shot hole so placed and drilled as to be safe for the firing of a shot and is charged and stemmed in accordance with the provisions of these regulations.

(2) Subject to the provisions of the last preceding paragraph, each shot firer or person appointed to fire shots by fuse (as the case may be) shall unless prevented by circumstances beyond his control fire every shot which has been charged by him or (in the case of a shot firer) under his supervision: Provided that in any case in which there is for the time being in force in the mine a scheme made by the manager and approved by an inspector specifying a procedure whereby any shot may be fired by a shot firer or person appointed to fire shots by fuse (as the case may be) who did not charge that shot or (in the case of a shot firer) supervise the charging thereof, shots may be fired in accordance with the provisions of that scheme.

(3) The manager of every mine at which there is for the time being in force a scheme described in the proviso to the last preceding paragraph shall ensure that a copy thereof is provided in the covered accommodation provided in pursuance of section one hundred and thirty-five of the Act and that a copy thereof is supplied to each shot firer and person appointed to fire shots by fuse employed at the mine.

27. The manager shall make and secure the efficient carrying out of arrangements to ensure that a daily record is kept, in a book provided by the owner of the mine, either—

- (a) by the deputy in charge of every district, in respect of the number of shots fired, and the quantity of explosives and number of detonators (if any) used, in that district on each shift of his; or
- (b) by each shot firer and each person appointed to fire shots by fuse, in respect of the number of shots fired, and the quantity of explosives and numbers of detonators (if any) used, by him on each shift of his.

Firing shots electrically

28.—(1) Where a round of shots is to be fired by means of electric shot firing apparatus, the shot firer shall ensure that—

- (a) the detonators are connected in series;
 - (b) no additional wire is used for connecting any detonator leads to each other.
- (2) No shot firer shall use any cable for firing shots if its length is less than—
- (a) sixty feet when a single shot is being fired otherwise than in a shaft in the course of being sunk;
 - (b) two hundred and ten feet when a round of shots is being fired otherwise than in a shaft in the course of being sunk;
 - (c) six hundred feet when a single shot or a round of shots is being fired in a shaft in the course of being sunk.

(3) A shot firer who is about to use shot firing cable shall ensure that it is not in, and cannot make, contact with any other cable or electric apparatus.

(4) No person other than a shot firer shall couple any shot firing cable to any detonator or to shot firing apparatus.

(5) No shot firer shall couple a shot firing cable to shot firing apparatus for the purpose of firing a shot unless the cable has already been coupled by him to the detonator or detonator circuit.

(6) No shot firer shall fire any round of shots by means of electric shot firing apparatus unless he has tested the circuit for continuity by means of a testing device approved by the Minister and has found it to be satisfactory. A shot firer shall not make any such test unless all persons in the vicinity have withdrawn to a place of safety, and he himself has taken proper shelter:

Provided that a shot firer shall not be required to make any such test before firing a round of less than five shots if there is for the time being in force in relation to the mine or the part thereof in which the round is to be fired an exemption from that requirement granted by an inspector by notice served on the manager.

Firing of shots by fuse

29.—(1) No shot firer or person appointed to fire shots by fuse shall fire a single shot by fuse other than safety fuse not less than three feet in length or any shot in a round by fuse other than safety fuse not less than four feet in length.

(2) Not more than one shot firer or person appointed to fire shots by fuse shall charge shot holes or fire shots by means of fuse at any one time in any working place or at any working face which does not exceed one hundred and fifty feet in length, and not more than one shot firer shall permit shot holes to be charged at any one time in any working place or at such working face.

(3) At any working face exceeding one hundred and fifty feet in length no shot firer or person appointed to fire shots by fuse shall fire any shot by means of fuse within one hundred and fifty feet of another charged shot hole unless he has satisfied himself that no other shot firer or person appointed to fire shots by fuse is about to fire that other shot.

(4) Except where a round of shots is fired—

- (a) by means of fuse lit by a length of plastic igniter cord of a type and description approved by the Minister; or
- (b) by other means approved by the Minister of firing a round of shots by means of fuse;

no shot firer or person appointed to fire shots by fuse shall attempt to fire more than four shots at one time by means of fuse.

(5) Where any shot is to be fired by means of fuse the shot firer or person appointed to fire shots by fuse shall ensure that—

- (a) no naked light or person smoking is directly above, or within four feet in any other direction of, any shot hole, explosive or detonator;
- (b) all surplus explosives are removed from the vicinity of the shot hole before a light is brought near to it for the purpose of lighting the fuse.

Warning and shelter

30. In every case where a shot may blow through into another place the person about to fire that shot shall cause adequate warning to be given to all persons in that place, and he shall after firing the shot cause notice to be given to them that the period of danger is ended.

31.—(1) Any person proposing to fire a shot shall before firing determine the danger zone likely to be created.

(2) No person shall fire any shot unless he has—

- (a) at each entrance to that danger zone either posted a sentry or placed an appropriate fence conspicuously marked with the words “danger” and “shot firing”;
- (b) ensured that all persons have withdrawn from that zone or have taken proper shelter; and
- (c) himself taken proper shelter.

32.—(1) No person who has been posted as a sentry by a shot firer or person appointed to fire shots by fuse (as the case may be) shall leave the place where he was posted until directed so to do by the person who posted him in person.

(2) No person shall pass a danger sign exhibited for the purpose of shot firing without the authority of the shot firer or person appointed to fire shots by fuse (as the case may be) concerned, or shall pass a sentry who has forbidden him to do so.

Precautions after shot firing

33.—(1) After the firing of any shot the person who fired it or (if any arrangements described in paragraph (3) of this regulation are for the time being in force in the mine) a deputy acting in accordance with those arrangements shall—

- (a) ascertain by a personal examination whether it is safe for ordinary working to be resumed in each working place affected by that shot; and
 - (b) ensure that any necessary action is taken to make each such place safe for such working.
- (2) Where a round of shots has been fired—
- (a) that examination shall not be made, if the round was a round of six shots or less, before the expiry of five minutes or, in any other case, before the expiry of ten minutes, from the firing of the round;
 - (b) the person making the examination shall in the course thereof examine for sockets in the face, for any explosive remaining in any such socket and, if he has reason to think that any shot may not have completely exploded, for any unexploded charge in the material brought down.
- (3) Arrangements in writing made by the manager and approved by an inspector may provide that, after the firing of every shot, the person who fired it shall not comply with paragraph (1) of this regulation but shall, at each entrance to the danger zone determined in pursuance of paragraph (1) of regulation thirty-one, leave placed an appropriate fence conspicuously marked as specified in paragraph (2) of that regulation, that the requirements of the said paragraph (1) of this regulation shall be fulfilled, in the course of the making in pursuance of regulation twelve of the Coal and Other Mines (Managers and Officials) Regulations, 1956⁽¹⁾ of the next pre-shift inspection of the deputy's district in which the shot was fired, by the deputy for the time being in charge of that district, and for matters ancillary and supplemental thereto.
- (4) No person other than a deputy acting in accordance with arrangements made in pursuance of the last preceding paragraph or a person acting with the authority of such a deputy shall remove any fence left so placed.
- (5) The manager of every mine at which there are for the time being in force arrangements described in paragraph (3) of this regulation shall ensure that a copy thereof is provided in the covered accommodation provided in pursuance of section one hundred and thirty-five of the Act and that a copy thereof is supplied to each deputy, shot firer and person appointed to fire shots by fuse employed at the mine.

⁽¹⁾ (p. 1212 above).