EXPLANATORY NOTE

(This note is not part of the order, but is intended to indicate its general purport.)

This order is made under the Mines and Quarries Act, 1954, s. 190, which empowers the Minister of Fuel and Power to re-enact (to the extent to which they could be enacted in regulations made under the Act and subject to modifications of the kind specified in that section) the provisions of any order, having effect by virtue of the Coal Mines Act, 1911, s. 61, which will cease to have effect at the commencement of the 1954 Act.

The provisions set out as regulations in the schedule to this order apply to mines of coal, and relate to the storage, issue, conveyance and use of explosives and detonators, and to the appointment, qualifications, equipment and duties of shot firers, at such mines. In mines or parts of mines which are hazardous by reason of inflammable gas or combustible dust, only explosives of types approved by the Minister may be used, and there are additional provisions in Part VII with regard to shot firing in such places. Part VIII makes provision with regard to shot firing in shafts and staple-pits, and Part IX specifies the procedure for dealing with various kinds of miss-fires. Part X deals with apparatus and explosives for killing horses. These regulations comprise, and will at the commencement of the Act replace, provisions of the Coal Mines (Explosives) Order, 1951.

1956 No. 1942

The Coal Mines (Cardox and Hydrox) Regulations, 1956

Made - - - -	*6th December,* 1956
Laid before Parliament	*12th December,* 1956
Coming into Operation	*1st January,* 1957

The Minister of Fuel and Power in pursuance of the powers conferred upon him by sections one hundred and forty-one and sixty-nine of the Mines and Quarries Act, 1954(a), and of all other powers him enabling hereby orders that the following regulations shall have effect:—

PART I

Application

1. The provisions of these regulations shall apply to the maintenance, preparation for use and use of blasting materials and devices known as "cardox shells" and "hydrox shells" (hereinafter referred to collectively as "shells") and materials for the priming and filling thereof, at every mine of coal, and in these regulations "mine" means such a mine.

PART II

Preparation, maintenance, carriage and custody of shells and equipment

2.—(1) The manager of every mine shall ensure that no shell is filled or primed with an initiator on the surface at the mine except in a place appointed by him for the purpose.

(a) 2 & 3 Eliz. 2. c. 70.

(2) The manager shall ensure that no such place is used for any other purpose and that adequate means for extinguishing any fire are provided at every such place and, in the case of a place at which hydrox shells are filled or primed, that—

(*a*) no inflammable materials other than those required for filling or priming shells are allowed to be thereat;

(*b*) it is kept cool and dry; and

(*c*) there is no smoking thereat.

3. No person shall fill or prime below ground in a mine any shell other than a shell of a type approved by the Minister for filling and priming below ground.

4.—(1) The manager of every mine at which shells are filled or primed shall appoint such number of competent persons and make such arrangements as to secure that no shell is filled or primed thereat except by or under the supervision of such a person.

(2) No shell filled or primed otherwise than at the mine shall be taken below ground at any mine other than a shell filled or primed in pursuance of arrangements approved by an inspector by notice served on the manager of the mine.

Notice of approved fillings

5.—(1) There shall be provided in the covered accommodation provided in pursuance of section one hundred and thirty-five of the Act and there shall be kept posted at each place on the surface appointed by the manager for the filling or priming of shells a notice specifying the weight and type of filling approved by the Minister and the type of initiator so approved for use with each type of shell used at the mine.

(2) No person shall fill or prime any shell at a mine otherwise than with the appropriate filling and initiator specified in such a notice.

Periodic examination of shells

6.—(1) The manager of every mine in which shells are used shall make and ensure the efficient carrying out of arrangements to secure that—

(*a*) every shell in use and the fittings thereof are examined by a competent person appointed for that purpose by him at intervals, in the case of a shell which has been filled below ground since the last examination thereof, not exceeding thirty days, and, in any other case, not exceeding ninety days to ascertain whether there has been any significant change in the outer diameter of the shell and the condition of the screw threads with which the firing head engages the shell;

(*b*) no shell is subjected to heat treatment or machining by any person other than the manufacturer thereof or in pursuance of arrangements approved by an inspector by notice served on the manager.

(2) Any person who has made such an examination shall enter a report thereof in a book provided for the purpose by the owner of the mine.

Conveyance of shells and materials for filling and priming them

7. The manager of every mine in which shells are used shall take such steps as may be necessary for securing that shells cannot fall out of any vehicle in which they are being conveyed at the mine or out of any cage or carriage in a shaft or outlet thereat and that any vehicle in which shells are being conveyed is distinctively marked to indicate its contents.

8.—(1) No person shall take below ground materials for filling or priming shells unless he is a person authorised so to do by the manager of the mine.

(2) No person shall take or convey below ground materials for filling or priming shells, other than carbon dioxide in a cylinder, except in a stoutly constructed box which is—

(*a*) water-proof;

(*b*) so constructed and maintained that when closed no electric charge applied to any part of the outside thereof could be conducted to the contents;

(*c*) distinctively marked to indicate its contents; and

(*d*) closed and locked:

Provided that a box need not comply with sub-paragraphs (*a*) and (*b*) if the materials therein are placed in a bag of such construction that the purposes thereof are achieved.

(3) Every person in charge of such a box shall ensure that it is not deposited at any time elsewhere than in a place of safety.

(4) Every person in charge of such a box shall, if at the end of his shift it contains any materials for filling or priming shells, return it to a place appointed by the manager of the mine for the purpose.

(5) No person below ground shall unlock or open any such box or take any material out of it unless a person appointed by the manager to fire shells requires to check the quantity of the contents or the material is required immediately for filling or priming a shell or the act in question has been authorised by a deputy or other official of the mine.

9.—(1) Subject to the following provisions of this regulation the manager of any mine in which shells are used may as respects that mine or any part thereof make a scheme for the conveyance in bulk of materials for filling or priming shells (herein referred to as "a scheme of transit") whereby such materials packed on the surface in boxes complying with paragraph (2) of the last preceding regulation may be conveyed in a special carriage to one or more reserve stations in that mine or part of the mine or to the working face.

(2) Every scheme of transit shall contain provisions for securing safety with respect to each of the following matters—

(*a*) the location, construction and marking of each reserve station and the custody of the keys thereof;

(*b*) the design and construction of the special carriage;

(*c*) supervision of and precautions to be taken during the transit of the carriage;

(*d*) supervision of any materials for filling or priming shells at a reserve station;

(*e*) if such materials are to be taken in bulk to any working face, the manner of so doing;

(*f*) the maximum quantity of such materials to be at any reserve station at any time;

(*g*) the control of the issue of such materials from any reserve station;

(*h*) the return of such materials to a reserve station or other place appointed by the manager.

(3) Every scheme of transit shall contain provisions to ensure that except in pursuance of a provision of the scheme, no material for filling or priming shells shall while being conveyed in bulk be taken nearer to a working face (not being only a place in a road at which ripping or work of repair is in progress) than the reserve station nearest to that face.

(4) A scheme of transit may impose duties and prohibitions on persons employed at the mine and those persons shall comply therewith. It shall be the duty of the manager of the mine to secure that the provisions of any scheme of transit for that mine are executed and enforced.

(5) If an inspector is of opinion with respect to a scheme of transit that the provisions contained therein in pursuance of paragraph (2) of this regulation are not adequate to secure safety, he may serve on the manager of the mine a notice stating that he is of that opinion, specifying the nature of the provision which in his opinion ought to be made and requiring the manager to amend the scheme accordingly, and any such notice shall, if it is so specified therein, become operative forthwith.

(6) The provisions of Part XV of the Act with respect to references upon notices served by inspectors shall apply to a notice served under the last preceding paragraph, and the relevant ground of objection shall be that the provisions contained in the scheme of transit in pursuance of paragraph (2) of this regulation are adequate to secure safety.

(7) The person in charge of the materials for filling or priming shells at any reserve station shall ensure that any such materials remaining thereat at the end of his period of duty are either delivered by him to a person appointed to have charge of them during the immediately following shift or are returned to a place appointed by the manager of the mine for the purpose.

(8) The manager of every mine at which a scheme of transit is in operation 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 person employed at the mine who is appointed by the manager to fire shells.

10.—(1) The manager of every mine in which shells are used shall ensure that the total quantity of materials for filling and priming shells (whether or not contained in shells) below ground in the mine does not at any time exceed the quantity estimated to be required for use during the period of twenty-four hours next following.

(2) The manager of every mine in which shells are used shall make and ensure the efficient carrying out of arrangements to secure that any filled shell which remains unused at the end of a firing shift is returned to an appropriate place appointed by him for the purpose.

Appointment and qualifications of persons to fire shells

11. No person shall fire a shell in any mine unless he has been appointed to do so by the manager of that mine and is a person who is, or is qualified to be appointed, a shot firer at that mine.

Electric shot firing apparatus and cable

12. No person shall fire a shell in a mine except by means of electric shot firing apparatus and cable, both being provided by the owner of the mine and being of specifications approved by the Minister—

(*a*) if the shells are to be fired in a round, for multi-shot firing;

(*b*) in any other case, for single-shot firing.

13. A person appointed to fire shells who is in charge of any electric shot firing apparatus—

(*a*) shall retain the removable handle or key in his own possession throughout the period while he is on duty;

(*b*) shall not place the removable handle or key in position in the apparatus until he is about to fire a shell; and

(*c*) shall remove it from the apparatus immediately after firing each shell.

14. If any electric shot firing apparatus appears to be defective, the person in charge of it shall not use it further but shall cause it to be returned to the surface forthwith and shall report the circumstances to the manager in writing.

15. Nothing in these regulations shall be deemed to exclude the application to electric shot firing apparatus or cable used for firing shells of regulations twenty-one and twenty-two of the Coal Mines (Explosives) Regulations, 1956(**a**).

External firing wires

16. No person shall connect any external firing wire to any shell at a mine until it is necessary to do so for the purpose of firing the shell.

Charging shot holes with shells

17.—(1) No person shall insert a shell into a hole for firing unless he has satisfied himself by taking all reasonable precautions that the hole is so placed as to be safe for the firing of a shell, and so drilled as to enable the shell to be inserted without using undue force.

(2) No person shall press any shell into a hole for firing if it cannot be inserted without the use of undue force.

Firing shells

18.—(1) No person shall fire any shell unless he has satisfied himself by taking all reasonable precautions that—

(*a*) it is in a hole so placed as to be safe for firing and there has been no contravention of the last preceding regulation in connection therewith; and

(*b*) measures of a kind directed by the manager of the mine have been taken to ensure that the shell is not ejected in a dangerous manner on firing.

(**a**) S.I. 1956/1767 (p. 1329 above).

(2) Unless an inspector by notice served on the manager consents thereto, no person shall fire a shell in any coal face unless the coal has been holed or sheared to a depth greater than the depth of the hole.

19.—(1) No person shall fire a shell or a round of shells unless he has carried out with respect to it immediately before firing an examination for general safety and tests for the presence of inflammable gas in any accessible place within thirty feet of a shot hole or any of them.

(2) Every such test for inflammable gas shall be made with a locked flame safety-lamp of a type approved by the Minister for the purpose of deputies' inspections, a methanometer of a type approved by the Minister or other apparatus of a type approved by the Minister for the purpose.

(3) No person shall fire a shell if on any such test made with respect to it he finds a percentage of inflammable gas exceeding one and a quarter per cent. or he can see an indication of gas on the lowered flame of a safety-lamp.

20. Where a round of shells is to be fired the person about to fire them shall ensure that they are connected in series.

21.—(1) No person shall use any cable for firing shells if its length is less than sixty feet.

(2) Any person about to fire a shell shall take care to prevent the shot firing cable from making contact with any other cable or electric apparatus.

(3) No person other than the person who is to fire the shell shall couple any shot firing cable to any shell or to shot firing apparatus.

(4) No person about to fire a shell shall couple a shot firing cable to the shot firing apparatus unless the cable has already been coupled by him to the shell or shells.

(5) No person shall fire a round of shells 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. No person shall make any such test unless all persons in the vicinity have withdrawn to a place of safety and he himself has taken proper shelter.

Warning and shelter

22. In every case where the firing of a shell may result in blowing through into another place the person firing the shell shall cause due warning to be given to all persons in that place, and he shall after firing the shell cause notice to be given to them that the period of danger is ended.

23.—(1) Any person about to fire a shell shall determine the danger zone likely to be created.

(2) No person shall fire a shell 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.

24.—(1) No person who has been posted as a sentry by a person about to fire a shell shall leave the place where he was posted unless personally directed so to do by that person.

(2) No person shall pass a danger sign exhibited for the purposes of these regulations without the authority of the person firing the shell or shall pass a sentry who has forbidden him to do so.

Precautions after shot firing

25.—(1) Every person who has fired a shell shall—

(*a*) ascertain by 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 shells has been fired the person firing them shall not make that examination before the expiry of five minutes.

Miss-fires

26. If any shell fails to fire, the person attempting to fire the shell—

(*a*) shall not himself approach nor allow any other person to approach the shell during the interval of ten minutes after such attempt;

(*b*) before approaching or allowing any other person to approach the shell shall disconnect the removable handle or key and the cable from the shot firing apparatus;

(*c*) shall then examine the cable and connections for any defect;

(*d*) if he leaves the working place while the shell remains there shall cause notice of the miss-fire to be given to the deputy in charge of the district and ensure that sufficient fences and danger notices are erected to notify the miss-fire to any person approaching the place.

27. If any shell fails to fire, no person shall attempt to remove it from its hole until any external firing wire has been disconnected from it.

Record of firing

28. Each person appointed to fire shells shall keep a record of all shells fired by him on each shift of his in a book provided by the owner of the mine for that purpose.

Exemptions

29. The Chief Inspector of Mines, if he is satisfied that the application of any provision of these regulations is inappropriate in relation to any mine or part thereof, may by notice served on the manager of that mine exempt it or a part thereof from the application of that provision.

Interpretation

30.—(1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

"the Act" means the Mines and Quarries Act, 1954;

"deputy" has the meaning assigned thereto in the Coal and Other Mines (Managers and Officials) Regulations, 1956(**a**);

"mine" has the meaning assigned thereto in regulation one;

(a) S.I. 1956/1758 (p. 1212 above).

"scheme of transit" has the meaning assigned thereto in regulation nine;

"shell" has the meaning assigned thereto in regulation one.

(2) Expressions to which meanings are assigned by the Act or by these regulations shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these regulations.

(3) The Interpretation Act, 1889(a), shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

Commencement and citation

31. These regulations shall come into operation at the commencement of the Act and may be cited as the Coal Mines (Cardox and Hydrox) Regulations, 1956.

Dated this sixth day of December, nineteen hundred and fifty-six.

Aubrey Jones,
Minister of Fuel and Power.

EXPLANATORY NOTE

(This note is not part of the regulations, but is intended to indicate their general purport.)

These regulations apply to the maintenance, preparation for use and use at coal mines of blasting materials and devices known as "cardox shells" and "hydrox shells".

Such shells may not be filled or primed with an initiator on the surface at a mine except at a place appointed for the purpose by the manager (reg. 2), and only shells of a type approved by the Minister of Fuel and Power for filling and priming below ground may be so filled or primed (reg. 3). Provision is made in regs. 4 and 5 to secure that shells shall be filled and primed properly.

Shells must be periodically examined (reg. 6), and precautions must be taken for securing their safe conveyance at the mine (reg. 7). Provision is made for the care and conveyance below ground of materials for filling and priming shells (reg. 8), and the manager may make a "scheme of transit" for the conveyance in bulk of such materials (reg. 9).

The firing of shells below ground may only be carried out by shot firers, or persons qualified to be shot firers, appointed by the manager (reg. 11).

The regulations also deal with the provision, use and care of shot firing apparatus and cable (regs. 12 to 16); the procedure for charging shot holes with shells (reg. 17); the precautions to be taken before and after firing (regs. 18 to 25); the procedure to be adopted in the case of miss-fires (regs. 26 and 27); and the keeping of records of all shells fired (reg. 28). The Chief Inspector of Mines may grant exemptions from the application of the regulations in certain circumstances (reg. 29).

The regulations will replace the Coal Mines (Cardox and Hydrox) Orders of 1941 and 1945 (S.R. & O. 1941/513, 1945/1468), which will cease to have effect upon the coming into operation of the Mines and Quarries Act, 1954.

(a) 52 & 53 Vict. c. 63.