

1988 No. 1930

HEALTH AND SAFETY

The Quarries (Explosives) Regulations 1988

Made - - - - - *3rd November 1988*

Laid before Parliament *16th November 1988*

Coming into force - *1st January 1990*

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The Secretary of State, in exercise of the powers conferred on him by sections 15(1), (2), (3)(a) and (b), (4)(a) and (5)(b) and 82(3)(a) of, and paragraphs 1(1), 3(1) and (2), 6, 14, 15(1), 16, 20 and 21(a) and (c) of Schedule 3 to, the Health and Safety at Work etc. Act 1974(a) ("the 1974 Act") and of all other powers enabling him in that behalf and for the purpose of giving effect without modifications to proposals submitted to him by the Health and Safety Commission under section 11(2)(d) of the 1974 Act after the carrying out by the said Commission of consultations in accordance with section 50(3) of that Act, hereby makes the following Regulations:

(a) 1974 c.37; sections 15 and 50 were amended by the Employment Protection Act 1975 (c.71), Schedule 15, paragraphs 6 and 16 respectively.

Citation and commencement

1. These Regulations may be cited as the Quarries (Explosives) Regulations 1988 and shall come into force on 1st January 1990.

Interpretation

2.—(1) In these Regulations, unless the context otherwise requires—

“the 1954 Act” means the Mines and Quarries Act 1954(a);

“appoint” means appoint in writing with a written statement of duties and jurisdiction;

“explosives” means—

(a) any solid or liquid substance or any mixture of solid or liquid substances or both which is capable by chemical reaction in itself of producing gas at such a temperature and pressure and at such a speed as could cause damage to surroundings or which is designed to produce an effect by heat, light, sound, gas or smoke or a combination of these as a result of non-detonative self-sustaining exothermic chemical reactions; or

(b) any article containing any substance or mixture such as is described in subparagraph (a) above;

“explosives store” means—

(a) premises registered in accordance with section 21 of the Explosives Act 1875(b) (“the 1875 Act”); or

(b) a magazine licensed in accordance with sections 6 to 8 of the 1875 Act; or

(c) a store licensed in accordance with section 15 of the 1875 Act;

“manager” means the manager for the time being of a quarry or where there are two or more managers, the manager having jurisdiction over the relevant part of a quarry, and any duty imposed upon the manager by these Regulations shall relate to the quarry or part of a quarry of which he is the manager;

“misfire” means an occurrence in relation to the firing of shots where—

(a) testing before firing reveals broken continuity which cannot be rectified; or

(b) a shot or any part of a shot fails to explode when an attempt is made to fire it;

“owner” means the owner of a quarry within the meaning of section 181 of the 1954 Act;

“quarry” means a quarry within the meaning of section 180 of the 1954 Act;

“shot” means a single shot or a series of shots fired as part of one blast;

“shotfirer” means a person appointed by the manager pursuant to regulation 7(1) to carry out shotfiring operations;

“shotfiring operations” includes—

(a) mixing explosives;

(b) priming a cartridge;

(c) charging and stemming a shothole;

(d) linking or connecting a round of shots;

(e) coupling a shotfiring circuit to a detonator circuit, circuit tester or exploder;

(f) determining a danger zone;

(g) withdrawal and sheltering of persons;

(h) testing a shotfiring circuit; and

(i) firing a shot;

“trainee shotfirer” means a person appointed by the manager pursuant to regulation 7(1) to undergo training in shotfiring operations under the close personal supervision of a shotfirer.

(2) Expressions to which meanings are assigned by the 1974 Act or these Regulations

(a) 1954 c.70; the relevant amending instrument is S.I. 1974/2013.

(b) 1875 c.17; the relevant amending instrument is S.I. 1974/1885.

shall, unless the context otherwise requires, have the same meanings in any document issued under these Regulations.

- (3) In these Regulations, unless the context otherwise requires, any reference to—
- (a) a numbered regulation is a reference to the regulation of these Regulations so numbered; and
 - (b) a numbered paragraph is a reference to the paragraph so numbered in the regulation in which that reference appears.

Application

3. These Regulations shall apply to the keeping, handling and use of explosives at a quarry, but they shall not apply to—

- (a) explosives or detonators while they are in the course of being transported from outside a quarry directly to—
 - (i) an explosives store inside the quarry; or
 - (ii) a point inside the quarry from which they will be taken for use inside that quarry during the same day as they were delivered; or
- (b) the vehicle being used so to transport them.

Owner's duties

4. The owner of every quarry at which explosives and detonators are used shall so far as is practicable—

- (a) satisfy himself that any person he appoints to be a manager has attained the age of 21 years and is competent to perform the duties imposed on him by these Regulations; and
- (b) provide such facilities and equipment as are necessary to enable shotfiring operations to be carried out safely.

Manager's duties

5.—(1) The manager of every quarry at which explosives and detonators are used shall ensure, so far as is reasonably practicable, that explosives and detonators at the quarry are kept, handled and used safely and securely.

(2) Without prejudice to the generality of paragraph (1), the manager shall—

- (a) ensure that any equipment, including any vehicle, which is provided for use in relation to shotfiring operations is—
 - (i) suitable for its intended use;
 - (ii) so kept, tested and maintained that it can be used safely; and
 - (iii) in the case of a vehicle, so marked as to be readily visible from a distance;
- (b) make and keep up to date suitable rules (which must be amended or modified if so required by an inspector), which rules shall lay down in writing procedures for shotfiring operations at the quarry, procedures for dealing with misfires, and arrangements for ensuring, so far as is reasonably practicable, that they are complied with;
- (c) approve adequate written specifications (whether prepared by him or not) for the firing of shots at the quarry to ensure so far as is reasonably practicable that when such firing occurs it will not give rise to danger;
- (d) appoint a suitable person to be in charge of the explosives store; and
- (e) ensure that at all times explosives and detonators are either in a locked explosives store or under the constant supervision of a suitable person.

(3) The manager shall ensure that the rules referred to in paragraph (2)(b) and any amendments or modifications made to them are kept at the office of the quarry and copies of them are—

- (a) posted in the covered accommodation provided in pursuance of section 135 of the 1954 Act; and
- (b) given to any person at the quarry on whom they impose duties.

(4) The manager shall ensure that the specification referred to in paragraph (2)(c) and

any amendments made to it are kept at the office of the quarry for a period of one year from the date of being made; and he shall give a copy of the specification to any person at the quarry on whom it imposes duties.

(5) The manager shall ensure that a legible and permanent record of the results of any examination of or test on any exploder or circuit tester at the quarry is recorded and kept for a period of 3 years in a safe place at that quarry.

Security of explosives and detonators

6. No person (other than a shotfirer, trainee shotfirer, a person authorised by the manager to handle explosives or detonators at a quarry, or a person appointed to be in charge of the explosives store) shall handle explosives or detonators at a quarry.

Appointment of shotfirers and trainee shotfirers

7.—(1) For the purpose of enabling shotfiring operations to be carried out at a quarry, the manager shall appoint shotfirers and trainee shotfirers.

(2) The manager shall take all reasonable steps to—

(a) satisfy himself that any person he appoints to be a shotfirer has attained the age of 21 years and has such training, knowledge and experience as are appropriate to ensure that he is competent to fire shots safely; and

(b) ensure that a trainee shotfirer at the quarry does not fire shots and is not required to fire shots—

(i) until the manager is satisfied that he has completed a suitable period of training and appropriate practical experience; and

(ii) except when he is under the close personal supervision of a shotfirer.

(3) A person at a quarry shall not fire shots unless he is a shotfirer or trainee shotfirer, or was, immediately before the coming into force of these Regulations, a shotfirer at that quarry within the meaning of regulation 5 of the Quarries (Explosives) Regulations 1959(a).

(4) The manager shall ensure that a record of the appointment at a quarry of any shotfirer or trainee shotfirer is kept at the office of the quarry until one year after that shotfirer's or, as the case may be, trainee shotfirer's employment at the quarry ends.

Shotfirer's duties

8.—(1) A shotfirer at a quarry who is to fire a shot or supervise the firing of a shot shall ensure so far as is reasonably practicable that each stage of the shotfiring operation is carried out safely and in accordance with the rules required to be made in pursuance of regulation 5(2)(b) and any specification required to be approved in pursuance of regulation 5(2)(c).

(2) Before a shot is fired electrically, a shotfirer shall—

(a) where a transformer coupled electric detonator is not used, ensure that the electric detonator is connected in series and test the circuit for continuity and electrical resistance with an ohmmeter suitable for the purpose from a safe place; or

(b) where a transformer coupled electric detonator is used, test the primary loop wire of the circuit for continuity and check the circuit for electrical impedance with an instrument suitable for the purpose; and

(c) in either case, ensure that the electrical resistance or impedance of the shotfiring circuit is such as to make a misfire unlikely; and

(d) ensure that the shot is fired from a safe place.

(3) No person shall fire a shot other than by means of a suitable exploder or suitable safety fuse.

(4) No person shall cap safety fuse with a detonator unless he is using crimpers

(a) S.I. 1959/2259.

designed for the purpose and he is in a suitable sheltered place designated by the manager for the purpose.

Exploders

9.—(1) The manager shall ensure that no exploder is used at a quarry unless it is one which can only be operated by means of a removable handle or key.

- (2) A shotfirer at a quarry who is to fire a shot or supervise the firing of a shot shall—
- (a) not place the removable handle or key in position in the exploder until he is about to use the exploder to test the circuit or fire a shot;
 - (b) withdraw the removable handle or key from the exploder immediately after the operation of the exploder or an unsatisfactory test on the firing circuit; and
 - (c) keep the removable handle or key in his personal possession throughout his period of duty.

(3) The manager shall ensure that all duplicate removable handles and keys are kept in a secure place.

Misfires

10. In the event of a misfire the shotfirer in charge of the shot shall consult the manager who shall ensure so far as is reasonably practicable—

- (a) that, apart from himself, no person other than the shotfirer, trainee shotfirer or any other person authorised by him enters the danger area—
 - (i) where the shot was fired by means of safety fuse, until a period of 30 minutes has elapsed since the misfire; or
 - (ii) where the shot was fired by other means, until a period of 5 minutes has elapsed since the misfire and any electrical shotfiring apparatus has been disconnected from the shot;
- (b) that appropriate steps are taken to determine the cause of and to deal with the misfire;
- (c) that a suitable record is kept of the misfire; and
- (d) that appropriate steps are taken to prevent theft of the explosives and detonators or their initiation by an unauthorised person.

Prohibited shots

11.—(1) No person shall charge or fire a shot at a quarry—

- (a) between one hour after sunset and one hour before sunrise;
- (b) in a shothole which has previously been fired, unless he is dealing with a misfire in accordance with action taken in pursuance of regulation 10(b); or
- (c) in any tunnel or other excavation (not being merely a shothole) in the face or side of the quarry for the purpose of getting minerals or products of minerals (a "heading blast"), but this sub-paragraph shall not apply to any quarry at which heading blasts were used at any time during the period of 2 years immediately preceding the coming into force of these Regulations.

(2) No person shall forcibly remove any detonator lead, safety fuse or other system for initiating shots from a shothole after the shothole has been charged and primed.

Prohibited activities near explosives

12. No person shall smoke within 10 metres of any explosives or detonators or (except for the purpose of lighting igniter cord or safety fuse) take any naked flame within 10 metres of any explosives or detonators.

Exemption certificates

13.—(1) Subject to paragraph (2), the Health and Safety Executive may, by certificate in writing, exempt any person or class of persons, any quarry or class of quarries or any part of a quarry, or any thing or class of things and any operation or class of operations from any requirement or prohibition imposed by these Regulations and any such

exemption may be granted subject to conditions and to a limit of time and may be revoked at any time by a certificate in writing.

(2) The Executive shall not grant any such exemption unless, having regard to the circumstances of the case, and in particular to—

- (a) the conditions, if any, it proposes to attach to the exemption; and
- (b) any other requirements imposed by or under any enactment which apply to the case,

it is satisfied that the health or safety of persons who are likely to be affected by the exemption will not be prejudiced in consequence of it and that the security of explosives or detonators will not be so prejudiced.

Modification of the Mines and Quarries Act 1954

14. Sections 102(2) and 103(2) of the 1954 Act (which provide respectively for the temporary appointment of quarry managers and supervision by quarry managers) shall each have effect as if the reference to the purposes of that Act and regulations included a reference to the purposes of these Regulations.

Disapplication of section 157 of the Mines and Quarries Act 1954

15. Section 157 of the 1954 Act (which provides a defence in legal proceedings and prosecutions in certain circumstances) shall not apply in relation to any legal proceedings or prosecution based on an allegation of a contravention of a requirement or prohibition imposed by or under these Regulations.

Revocations and modifications

16.—(1) The following Regulations are hereby revoked—

- (a) Regulation 11 of the Quarries (General) Regulations 1956(a);
- (b) the Quarries (Explosives) Regulations 1959; and
- (c) the Tregargus Quarry (Explosives) Special Regulations 1960(b).

(2) In the 1954 Act, the Mines and Quarries (Tips) Act 1969(c) and the Mines Management Act 1971(d), and in regulations made under any of those Acts, or in health and safety regulations, any reference to any of those Acts shall be treated as including a reference to these Regulations.

Signed by order of the Secretary of State.

Patrick Nicholls
Parliamentary Under Secretary of State,
Department of Employment

3rd November 1988

(a) S.I. 1956/1780.
(b) S.I. 1960/117.
(c) 1969 c.10.
(d) 1971 c.20.

EXPLANATORY NOTE

(This note is not part of the Regulations)

These Regulations apply to the keeping, handling and use of explosives (including detonators) at quarries (*regulation 3*), subject to the exceptions specified in that regulation.

The Regulations—

- (a) impose duties on the owners of quarries at which explosives and detonators are used with respect to the appointment of quarry managers and the provision of facilities and equipment relating to the carrying out of safe shotfiring operations (*regulation 4*);
- (b) impose duties on quarry managers with respect to the keeping, handling and use of explosives and detonators and the carrying out of shotfiring operations (*regulation 5*);
- (c) impose restrictions on persons who may handle explosives and detonators (*regulation 6*);
- (d) impose requirements on quarry managers with respect to the appointment of shotfirers and trainee shotfirers and impose restrictions on who may fire shots (*regulation 7*);
- (e) impose duties on shotfirers with respect to the firing of shots (*regulation 8*);
- (f) impose duties on quarry managers and shotfirers with respect to the use of exploders (*regulation 9*);
- (g) impose duties on quarry managers and shotfirers in the event of misfires (*regulation 10*);
- (h) impose restrictions in connection with the charging, firing and priming of shots (*regulation 11*);
- (i) specify prohibited activities near explosives and detonators (*regulation 12*).

The Regulations provide for the issue of certificates of exemption by the Health and Safety Executive (*regulation 13*) and modify sections 102(2) and 103(2) of the Mines and Quarries Act 1954 so that persons treated as quarry managers for the purposes of that Act and regulations made thereunder are treated as quarry managers for the purposes of these Regulations (*regulation 14*). The Regulations also disapply section 157 of the Mines and Quarries Act 1954 (defence in certain legal proceedings) in relation to any legal proceedings or prosecution arising out of these Regulations (*regulation 15*).

The Regulations revoke Regulation 11 of the Quarries (General) Regulations 1956, the Quarries (Explosives) Regulations 1959 and the Tregargus Quarry (Explosives) Special Regulations 1960 and provide that any reference to the Mines and Quarries Act 1954, the Mines and Quarries (Tips) Act 1969 or the Mines (Management) Act 1971 in any of those Acts, in regulations made under any of those Acts, or in health and safety regulations, shall be treated as including a reference to these Regulations (*regulation 16*).