

1991 No. 233

HEALTH AND SAFETY

**The Quarries (Explosives) Regulations
(Northern Ireland) 1991**

Made 30th May 1991

Coming into operation 1st August 1991

To be laid before Parliament

ARRANGEMENT OF REGULATIONS

1. Citation and commencement.
2. Interpretation.
3. Application.
4. Owner or occupier's duties.
5. Owner, occupier, or agent's duties.
6. Security of explosives and detonators.
7. Appointment of shotfirers and trainee shotfirers.
8. Shotfirer's duties.
9. Exploders.
10. Misfires.
11. Prohibited shots.
12. Prohibited activities near explosives.
13. Offences.
14. Defences available to owners, occupiers and agents.
15. Exemption certificates.
16. Revocations and modifications.

The Secretary of State, in pursuance of Articles 17(1), (2), (3)(a), (4)(a), (5)(b), (6)(a) and (b) and 55(2) of, and paragraphs 1(1), 2, 5, 13, 14(1), 15, 19 and 20(a) and (c) of Schedule 3 to, the Health and Safety at Work (Northern Ireland) Order 1978(a) ("the 1978 Order") as applied and modified by Article 53 of that Order and after consulting, in accordance with Article 46 of that Order as so applied and modified, the Health and Safety Agency for Northern Ireland and such other bodies as appeared to him to be appropriate, hereby makes the following regulations:—

Citation and commencement

1. These regulations may be cited as the Quarries (Explosives) Regulations (Northern Ireland) 1991 and shall come into operation on 1st August 1991.

Interpretation

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

“agent” means the agent of a quarry as defined in Article 2(2) of the 1983 Order;

“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 sub-paragraph (a) above;

“explosives store” means—

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

“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;

“occupier” means the occupier of a quarry as defined in Article 2(2) of the 1983 Order;

“the 1983 Order” means the Quarries (Northern Ireland) Order 1983(b);

“owner” means the owner of a quarry as defined in Article 2(2) of the 1983 Order;

“quarry” means a quarry as defined in Article 2(2) of the 1983 Order;

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

“shotfirer” means a person appointed by the owner, occupier or agent pursuant to regulation 7(1) to carry out shotfiring operations;

“shotfiring operations” includes—

(a) 1875 c. 17

(b) S.I. 1983/150 (N.I. 4)

- (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 owner, occupier or agent 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 1978 Order or these regulations shall, unless the context otherwise requires, have the same meanings in any document issued under these regulations.

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 are delivered; or
- (b) the vehicle being used so to transport them.

Owner or occupier's duties

4. The owner or occupier 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 an agent 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.

Owner, occupier or agent's duties

5.—(1) The owner, occupier or agent 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 owner, occupier or agent 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 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, if there is such a store; and

(e) ensure that at all times detonators and explosives are kept separately in suitable containers and are either in a locked explosives store or under the constant supervision of a suitable person.

(3) The owner, occupier or agent 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 accordance with Article 14(1) of the 1983 Order; and

(b) given to any person at the quarry on whom they impose duties.

(4) The owner, occupier or agent 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 owner, occupier or agent shall ensure that a legible and permanent record of the results of any examination of or test on any exploder or circuit tester is recorded and kept in a safe place at that quarry for a period of three years.

Security of explosives and detonators

6. No person (other than a member of the Royal Ulster Constabulary, a shotfirer, trainee shotfirer, a person authorised by the owner, occupier or agent to handle explosives or detonators at a quarry, or a person appointed to be in charge of an 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 owner, occupier or agent shall appoint shotfirers and may appoint trainee shotfirers.

(2) The owner, occupier or agent shall take all reasonable steps to—

- (a) satisfy himself that any person he appoints to be a shotfirer holds a valid shotfirer's licence granted by the Secretary of State under the Explosives (No. 2) Regulations (Northern Ireland) 1976(a); and
- (b) ensure that a trainee shotfirer at the quarry does not fire shots and is not required to fire shots but is given a suitable period of training and appropriate practical experience under the close personal supervision of a shotfirer.

(3) The owner, occupier, or agent 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 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 designed for the purpose and he is in a suitable sheltered place designated by the owner, occupier or agent for the purpose.

Exploders

9.—(1) The owner, occupier or agent 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 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 owner, occupier or agent 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 owner, occupier or agent who shall ensure, so far as is reasonably practicable, that—

- (a) 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) appropriate steps are taken to determine the cause of and to deal with the misfire;
- (c) a suitable record is kept of the misfire; and
- (d) 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 half an hour after sunset, and 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 operation 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.

Offences

13. In the event of a contravention of any requirement or prohibition imposed on the owner, occupier, or agent by these regulations, the owner, occupier and agent shall each be guilty of an offence unless he proves that he had taken all reasonable means to comply or effect compliance with these regulations.

Defences available to owners, occupiers and agents

14. In any proceedings under these regulations against the owner, occupier or agent of a quarry in respect of an offence it shall be a defence for the person charged to prove:—

- (a) that he was not in the habit of taking, and did not in respect of the matters in question take, any part in the management of the quarry; and
- (b) that the offence was committed without his knowledge, consent or connivance.

Exemption certificates

15.—(1) Subject to paragraph (2), the Secretary of State 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 Secretary of State shall not grant any such exemption unless, having regard to the circumstances of the case, and in particular to—

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

he 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.

Revocations and modifications

16.—(1) Part VI of the Quarries (Safety, Health, Equipment and Explosives) Rules (Northern Ireland) 1962 is hereby revoked.

(2) In the 1983 Order and in regulations made thereunder or in health and safety regulations any reference to the 1983 Order shall be treated as including a reference to these regulations.

Northern Ireland Office
30th May 1991

P. L. Brooke
One of Her Majesty's Principal
Secretaries of State

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 or occupiers of quarries at which explosives and detonators are used with respect to the appointment of quarry agents and the provision of facilities and equipment relating to the carrying out of safe shotfiring operations (*regulation 4*);
- (b) impose duties on quarry owners, occupiers or agents with respect to the keeping, handling and use of explosives and detonators and the carrying out of shotfiring operations (*regulation 5*);
- (c) limits the persons who may handle explosives and detonators (*regulation 6*);
- (d) impose requirements on quarry owners, occupiers or agents with respect to the appointment of shotfirers (*regulation 7*);
- (e) impose duties on shotfirers with respect to the firing of shots (*regulation 8*);
- (f) impose duties on quarry owners, occupiers or agents and shotfirers with respect to the use of exploders (*regulation 9*);
- (g) impose duties on quarry owners, occupiers or agents 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*).
- (j) provide that a contravention of the regulations by an owner, occupier or agent is an offence (*regulation 13*);
- (k) provide defences for an owner, occupier or agent charged under the regulations (*regulation 14*).

The regulations provide for the issue of certificates of exemption by the Secretary of State (*regulation 15*). The regulations also revoke Part VI of the Quarries (Safety, Health, Equipment and Explosives) Rules (Northern Ireland) 1962 and provide that in the Quarries (Northern Ireland) Order 1983 and in health and safety regulations any reference to the Quarries (Northern Ireland) Order 1983 shall be treated as including a reference to these regulations (*regulation 16*).