



STATUTORY INSTRUMENTS

**S.I. No. 28 of 2008**



SAFETY, HEALTH AND WELFARE AT WORK (QUARRIES)  
REGULATIONS 2008

**(Prn. A8/0225)**

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S.I. No. 28 of 2008

SAFETY, HEALTH AND WELFARE AT WORK (QUARRIES)  
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I, BILLY KELLEHER, Minister of State at the Department of Enterprise, Trade and Employment, in exercise of the powers conferred on me by section 58 of the Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005) and the Enterprise, Trade and Employment (Delegation of Ministerial Functions) (No. 3) Order 2007 (S.I. No. 561 of 2007) and for the purpose of giving effect to Council Directive 92/104/EEC of 3 December 1992<sup>1</sup>, after consultation with the Health and Safety Authority, hereby make the following regulations:

PART 1

PRELIMINARY AND GENERAL

*Citation and commencement.*

1. (1) These Regulations may be cited as the Safety, Health and Welfare at Work (Quarries) Regulations 2008.

(2) Subject to paragraph (3), these Regulations shall come into operation on 1 May 2008.

(3) Regulations 13(c) and 16(b) shall come into operation on 1 November 2009.

*Interpretation.*

2. (1) In these Regulations—

“Act” means the Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005);

“appoint”, in relation to a person, means appoint in writing with a written statement summarising his or her responsibilities and duties;

“blast specification” means a blast specification prepared under Regulation 47;

“detonator” means an initiator for explosives that contains a charge of high explosive fired by means of a flame, spark, electric current or shock tube;

“excavation” means any place at a quarry where minerals are being or have been extracted and includes the ground, faces or sides of that place and any other incline;

“exploder” means a device designed for firing detonators;

<sup>1</sup>OJ No. L 404, 31.12.1992, p.10.

*Notice of the making of this Statutory Instrument was published in  
“Iris Oifigiúil” of 19th February, 2008.*

“explosives” means Class 1 explosives as classified in the manual published by the United Nations Organisation and entitled “Fifteenth Revised Edition of the Recommendations prepared by the United Nations Committee of Experts on the Transport of Dangerous Goods” (ISBN 92-1-139120-6) or a later edition thereof that is in substitution for, and not an alternative to, that edition;

“explosive substance” means a solid or liquid substance (or a mixture of those substances) that is, by itself, capable by chemical reaction of producing gas at such temperature, pressure and speed as could cause damage to its surroundings;

“explosives store” means any of the following:

- (a) a magazine licensed under sections 6 to 8 of the Explosives Act 1875,
- (b) a store licensed under section 15 of that Act,
- (c) premises registered in accordance with section 21 of that Act;

“explosives supervisor” means a person appointed under Regulation 44 to organise and supervise all work involving explosives;

“FÁS” means An Foras Áiseanna Saothair;

“FETAC” means the Further Education and Training Awards Council established under section 12 of the Qualifications (Education and Training) Act 1999 (No. 26 of 1999);

“geotechnical specialist” means a professional engineer or professional geologist competent to carry out a geotechnical assessment under Part 6;

“lagoon” means any natural or artificial pond (including any water-filled excavation) used in connection with quarrying operations and includes—

- (a) such a pond that treats waste water utilising sunlight, bacterial action and oxygen to purify that water, and
- (b) a place at a quarry where waste water, sludge and liquid waste accumulate or are stored;

“minerals” means any natural deposit, including stone, slate, clay, gravel and sand, and includes products of minerals, but does not include petroleum within the meaning of Part II of the Petroleum and Other Minerals Development Act 1960 (No. 7 of 1960) or peat;

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

- (a) testing before firing reveals broken continuity that cannot be rectified, or
- (b) a shot or any part of a shot fails to explode when an attempt is made to fire it;

“operator”, in relation to a quarry, means an employer or other person who has been appointed under Regulation 6 by a quarry owner;

“preparation for sale” includes the crushing, screening, washing, drying and bagging of minerals;

“prospecting” means the activity of searching for minerals or mineral deposits;

“public road” means a road over which a public right of way exists and the responsibility for the maintenance of which lies on a local authority within the meaning of the Local Government Act 2001 (No. 37 of 2001);

“quarry” has the meaning given to it by Regulation 3;

“quarry manager” means an individual appointed under Regulation 10 to manage the operation of a quarry;

“quarry owner” means the owner of a quarry, or part of a quarry;

“registration card” means a quarries skills registration card issued by FÁS pursuant to paragraph (3) and Schedule 1 under the Quarries Skills Certification Scheme;

“safety fuse” means a cord that contains an internal burning medium by which fire is conveyed at a continuous and uniform rate for the purpose of firing detonators or blackpowder, without initiating burning in a similar fuse that may be in lateral contact alongside;

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

“shotfirer” means a person appointed under Regulation 44 to be responsible for shotfiring operations;

“shotfiring operations” includes any of the following:

- (a) checking to ensure that the blast specification is still appropriate for the site conditions at the time the blasting is to take place,
- (b) checking the geometry of shotholes,
- (c) mixing explosives,
- (d) priming a cartridge,
- (e) charging and stemming a shothole,
- (f) linking or connecting a series of shots,
- (g) withdrawal and sheltering of persons,
- (h) inspecting and testing a shotfiring circuit,



- (i) firing a shot,
- (j) checking for misfires,
- (k) destroying surplus explosives;

“shotfiring rules” means rules made under Regulation 46;

“storekeeper” means a person appointed under Regulation 44 to be responsible for the safe operation of an explosives store;

“tip” means an accumulation or deposit of minerals used in connection with quarrying operations and includes—

- (a) overburden dumps, backfills, spoil heaps, stock piles and any wall or structure that retains or confines a tip, and
- (b) a tip that had been used during previous quarrying or mining operations and from which minerals are being extracted for further use or for sale;

“trainee shotfirer” means a person appointed under Regulation 44 for the purpose of undergoing training in shotfiring operations under the close personal supervision of a shotfirer;

“vehicle and traffic rules” means rules made under Regulation 23;

“workstation” means any location at a quarry where work or work-related activities are undertaken.

(2) Where, under these Regulations, a person is required to make instructions, rules, operating procedures or schemes, such instructions, rules, operating procedures or schemes, as the case may be, shall be set out in writing and reasonable in the context of duty that the person is required to carry out.

(3) Taking account of the European Communities (Recognition of Qualifications and Experience) Regulations 2003 (S.I. No. 372 of 2003) and in compliance with Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications<sup>2</sup>, FÁS shall issue registration cards (with photographic identification) pursuant to Schedule 1 and maintain a register of the cards issued.

*Meaning of “quarry”.*

3. (1) In these Regulations “quarry” means, subject to paragraph (2), an excavation or system of excavations for the purpose of, or in connection with, the surface extraction of, or prospecting for, minerals and includes any of the following:

<sup>2</sup>OJ L255, 30.9.2005, p.22.

- (a) so much of the area (including works thereon and ancillary surface installations such as buildings and other premises and structures providing accommodation, rest and sanitary facilities) adjacent to or surrounding quarrying operations as is occupied for the purpose of, or used in connection with—
  - (i) those operations,
  - (ii) the storage or preparation for sale of the minerals extracted from the quarry, or
  - (iii) the removal from the quarry of any substance extracted from the quarry;
- (b) a tip;
- (c) a lagoon;
- (d) a reclamation site—
  - (i) from which materials are being extracted for further use or for sale, and
  - (ii) where that extraction forms part of the process whereby that site is restored for agricultural, industrial, leisure or domestic use;
- (e) a railway line or siding at the quarry.

(2) Notwithstanding paragraph (1), “quarry” does not include any of the following:

- (a) a mine within the meaning of section 3 of the Mines and Quarries Act, 1965 (No. 7 of 1965);
- (b) a place where any of the following operations are carried out:
  - (i) extraction of minerals through drilling by boreholes,
  - (ii) prospecting with a view to such extraction,
  - (iii) preparation for sale of such extracted materials;
- (c) an excavation or system of excavations made in the carrying out of construction work within the meaning of the Safety, Health and Welfare at Work (Construction) Regulations (S.I. No. 504 of 2006);
- (d) a public road;
- (e) an area of a quarry at which any manufacturing process (including the processing of minerals) is carried out;

- (f) an area of a quarry that is being used exclusively for a work activity unconnected with the extraction of minerals, or the preparation for sale of minerals.

*Application.*

4. (1) Subject to paragraph (2), these Regulations apply to all quarries.
- (2) These Regulations do not apply to a quarry in relation to which—
- (a) notice of permanent cessation of quarrying operations has been given to the Authority in accordance with Regulation 8, and
- (b) all work relating and incidental to that cessation has been completed, including work for the purpose of preventing the escape from that quarry of water or other substance that flows when wet.
- (3) The relevant statutory provisions apply to all quarries, without prejudice to more stringent or specific provisions contained in these Regulations.

*Amendment of Safety, Health and Welfare at Work (Extractive Industries) Regulations 1997.*

5. The Safety, Health and Welfare at Work (Extractive Industries) Regulations 1997 (S.I. No. 467 of 1997) are amended by inserting after Regulation 3 the following Regulation:

*“Non-application to quarries*

3A. Notwithstanding Regulations 2(1) and 3, these Regulations shall not apply to a quarry within the meaning of the Safety, Health and Welfare at Work (Quarries) Regulations 2008.”.

## PART 2

### SAFETY AND HEALTH MANAGEMENT

*Appointment of operator.*

6. (1) Before the commencement of operations at a quarry, or part of a quarry—
- (a) the quarry owner shall appoint a competent person who has sufficient resources to be the operator of the quarry, or part of the quarry, as the case may be, or
- (b) where the quarry owner is competent and has sufficient resources to do so, he or she may appoint himself or herself as operator of the quarry, or part of the quarry

and shall make a record of the appointment.

- (2) Where the quarry owner under paragraph (1)(a) appoints another person to be the operator of the quarry, or part of the quarry, both parties shall sign

the record and the quarry owner shall provide a copy of the signed record to the operator.

(3) The original record and a signed copy of it shall be kept by the quarry owner and the operator, respectively, for a period of 6 years from the termination of the operator's appointment as operator of the quarry, or part of the quarry.

(4) The quarry owner shall provide the operator with any relevant information available to him or her, which might affect the safety, health and welfare of persons at work at the quarry.

(5) Where the quarry owner appoints different operators for different parts of his or her quarry, he or she shall—

- (a) appoint one of them to be the common operator for the purposes of Regulation 12, and
- (b) demarcate the different parts of the quarry.

*Operator to be appointed before commencement of quarrying operations.*

7. No person shall be deployed to carry out quarrying operations at a quarry unless an operator has been appointed under Regulation 6.

*Notification to Authority.*

8. (1) The operator shall ensure that written notice in an approved form is given to the Authority not later than 14 days following the occurrence of any of the following events in respect of the quarry:

- (a) his or her appointment as operator;
- (b) the commencement of quarrying operations;
- (c) the permanent cessation of quarrying operations.

(2) The quarry owner shall, not later than 14 days after the appointment of a common operator under Regulation 6(5), give written notice of that appointment in an approved form to the Authority.

*General duties of operator.*

9. (1) The operator shall, so far as is reasonably practicable, ensure that—

- (a) the quarry and any machinery, tool or other article used at work there are, as appropriate, selected, designed, constructed, installed, equipped, commissioned, protected, operated and maintained in such a way that persons at work can perform the work assigned to them without endangering the safety, health and welfare of themselves or others,
- (b) if any of the articles referred to in subparagraph (a) is located in an area of the quarry within which risk of fire or explosion from ignition

of gas, vapour or volatile liquid exists, or is likely to exist, that article is—

- (i) suitable for use in that particular area, and
  - (ii) if necessary, fitted with suitable protective devices and fail-safe systems,
- (c) mechanical equipment and plant at the quarry is of adequate strength and free from patent defect and suitable for the purpose for which it is intended, and
- (d) electrical equipment and plant at the quarry is of sufficient capacity for the purpose for which it is intended.
- (2) The operator shall ensure, as regards that quarry, that—
- (a) work is planned taking into account the elements of the safety statement that concern the risks of falls, movements or slips of ground and, in particular, that—
    - (i) the height and slope of overburden stripping and extraction faces is appropriate to the nature and stability of the ground and the methods of working,
    - (ii) benches and haul roads are stable enough for the plant used and are constructed and maintained in such a way that plant can be moved safely,
    - (iii) before the start or restart of work, stripping and extraction faces above work areas or haul roads are checked for loose ground or rocks and scaling is carried out where necessary, and
    - (iv) faces and tips are not worked in such a way that instability is created,
  - (b) it is organised so as—
    - (i) to provide adequate protection against hazards,
    - (ii) to be kept in good order, with any hazardous substances or deposits removed, and
    - (iii) not to endanger the safety and health of persons at work,
  - (c) workstations are designed and constructed according to ergonomic principles taking into account the need for persons at work to carry out their work safely and without risk to health at their workstations,
  - (d) a sufficient number of persons with the requisite competence to perform the tasks assigned to them are present,

- (e) where a workstation is occupied by a person on his or her own, the necessary supervision or means of communication is provided, and
- (f) in the event of the permanent cessation of quarrying operations there, the quarry is left, so far as is reasonably practicable, in a safe condition.

*Management structure.*

10. (1) The operator shall establish a management structure that includes the appointment of—

- (a) a competent individual as quarry manager to—
  - (i) manage the operation of the quarry at all times when persons are working in the quarry, provided that where the operator is an individual and is competent he or she may appoint himself or herself,
  - (ii) advise the operator as to the observance of the requirements of the relevant statutory provisions, and
  - (iii) exercise a general supervision of the observance of those requirements and the promotion of the safe conduct of work generally,
- (b) persons appointed under Regulation 44, and
- (c) an adequate number of competent persons—
  - (i) to enable the quarry to be operated and managed safely and in accordance with the safety statement,
  - (ii) to supervise persons at the quarry engaged in work activities involving serious risk to safety and health as identified in the safety statement, and
  - (iii) to visit occupied workstations at the quarry at least once during each shift, where this is specified as necessary under the safety statement.

(2) The operator shall ensure that the management structure is reviewed regularly and revised where necessary and, in particular, if the quarry undergoes significant changes (including natural changes), extensions or conversions.

(3) The operator shall ensure that each person who forms part of the management structure is provided with a copy of those parts of the safety statement that describe that person's authority and duties.

*Safety statement.*

11. (1) The operator shall ensure that the safety statement, prepared in compliance with section 20 of the Act, includes details of the—

- (a) management structure referred to in Regulation 10 setting out the duties and responsibilities of each person in the management structure,
  - (b) operating procedures and instructions required by Regulation 14(a), relating to the safety and health of persons at work at the quarry in both normal and critical situations there,
  - (c) arrangements for the review of safety measures in accordance with section 20 of the Act,
  - (d) system of permits to work, if required by Regulation 15,
  - (e) inspection, maintenance and testing schemes prepared in accordance with Regulation 19,
  - (f) vehicles and traffic rules required by Regulation 23,
  - (g) instructions required by Regulation 29(c),
  - (h) precautions taken to protect against, detect and combat the outbreak and spread of fire required by Regulation 31,
  - (i) arrangements made and the equipment and measures necessary to prevent explosions required by Regulation 31,
  - (j) shotfiring rules made under Regulation 46,
  - (k) operating procedures for excavations, tips and lagoons required by Regulation 53,
  - (l) conclusions of any appraisal, site investigation or geotechnical assessment of an excavation, tip or lagoon undertaken pursuant to Regulations 54 and 55, and
  - (m) arrangements for health surveillance required by Regulation 63.
- (2) In addition to the matters referred to in paragraph (1), the safety statement shall, where appropriate, also include—
- (a) a plan detailing the equipment and measures required to protect persons at work at the quarry from the risk of explosion or fire in compliance with Regulations 31 and 32(1),
  - (b) where toxic gases are or may be present in the atmosphere at the quarry in such concentration that the atmosphere may be harmful to the health of persons at work, a plan detailing the protective equipment and measures required to protect persons at work at the quarry from the harmful atmosphere in compliance with Regulation 32(2), and

- (c) a diagram of the quarry indicating those areas to which these Regulations do not apply by virtue of Regulation 3(2).

*Co-ordinated measures.*

12. Without prejudice to section 21 of the Act, where a common operator has been appointed under Regulation 6(5), that operator shall co-ordinate the implementation of all measures relating to the safety, health and welfare of persons at work at the quarry.

*Safety induction, competence and skills certification.*

13. The operator shall ensure that no person shall undertake any quarrying operations unless that person—

- (a) has received appropriate site-specific safety induction instruction,
- (b) is either competent to do that work, or does it under the instruction and supervision of some other person who is competent to give instruction in, and supervise the doing of, that work for the purpose of training that person, and
- (c) if engaged in any of the tasks specified in Schedule 1, has been issued with and is in possession of a current registration card in respect of the Quarries Skills Certification Scheme.

*Instructions, rules and operating procedures.*

14. The operator shall—

- (a) ensure that suitable instructions and operating procedures are in place at the quarry with a view to securing the safe use of work equipment,
- (b) ensure that copies of all instructions, rules and operating procedures required to be made under these Regulations are kept at the quarry and given to any person at work at the quarry to whom they apply, and
- (c) take all reasonable measures to ensure that each person at work at the quarry understands the instructions, rules and operating procedures made under these Regulations that apply to that person.

*Permits to work.*

15. The operator shall ensure that—

- (a) based on an assessment of the risks, a system of permits to work is introduced for the carrying out of—
  - (i) hazardous activities, and
  - (ii) activities which, when carried out in conjunction with other activities, may cause serious risks to the safety, health and welfare of persons at work, and



- (b) a permit to work referred to in paragraph (a) is issued by a competent person before the particular activity concerned commences and specifies the conditions to be fulfilled and protective measures to be taken before, during and after the carrying out of the activity.

*Duties of persons at work.*

16. Every person at work to which these Regulations apply shall—

- (a) comply with all applicable instructions and rules and operating procedures, and
- (b) show his or her registration card when requested by the person's employer, the operator, or if applicable, the common operator.

*Consultation.*

17. Every operator and employer at a quarry shall consult at the quarry with their safety representatives and employees, as the case may be, in relation to the requirements of these Regulations and section 26 of the Act, taking account of the need, whenever necessary, for co-operation and co-ordination among—

- (a) operators and employers,
- (b) employees and other persons at work, and
- (c) the safety representatives,

in order to promote and develop measures for protecting the safety, health and welfare of persons at work at the quarry and to monitor the effectiveness of such measures.

*Record keeping.*

18. (1) The operator shall ensure that—

- (a) every report, notification or other record required to be made under these Regulations is in an approved, or otherwise appropriate, form and kept at the quarry or other suitable place, but when quarrying operations have permanently ceased at the quarry the record shall be kept—
  - (i) at the registered office of the operator, or
  - (ii) where the operator is an individual, at his or her place of business,
 for a period of 6 years, unless the provision concerned imposes a different period, and
- (b) a copy of the written statement of duties of all persons appointed at the quarry under these Regulations is kept at the quarry or other suitable place for at least one year from the date of termination of the person's employment.

(2) Subject to paragraph (1), where under these Regulations records, reports, or other documents are required to be made, it is sufficient compliance with the requirement if the operator and, where appropriate, other person concerned—

- (a) make and maintain the record, report or other document by electronic means, and
- (b) duly authenticate it as soon as is practicable afterwards.

(3) Without prejudice to section 64 of the Act, any person having custody of the records required by the Act or these Regulations shall—

- (a) ensure that the records are open to inspection by an inspector, and
- (b) forthwith send to an inspector such extracts from them or copies of them as the inspector may from time to time require in accordance with section 64 of the Act.

### PART 3

#### GENERAL SAFETY PROVISIONS

##### *Inspection, maintenance and testing.*

19. (1) The operator shall, with a view to securing, so far as is reasonably practicable, the safety, health and welfare of persons at work in the quarry—

- (a) prepare and keep up to date suitable schemes for the systematic inspection, maintenance and, where appropriate, testing of—
  - (i) all parts of the quarry,
  - (ii) all buildings (whether temporary or permanent) at the quarry, and
  - (iii) any plant and work equipment at the quarry,
- (b) ensure that suitable records are made of inspections, maintenance and tests carried out in pursuance of subparagraph (a) and that each such record lists any significant defects and the steps taken, or to be taken, to remedy them and is—
  - (i) signed by the person making it, and
  - (ii) countersigned by an appropriate person in the management structure under Regulation 10, and
- (c) ensure that a sufficient number of competent persons are appointed to undertake the activities referred to in subparagraphs (a) and (b).

(2) Without prejudice to the generality of subparagraphs (1)(a) and (b), the scheme shall specify that on every working day—

- (a) the faces above every workstation at the quarry and every road used by persons at work at the quarry for the purpose of their work or of getting to or from their place of work are inspected for loose ground or loose rocks,
- (b) faces, sides and any overburdens of the quarry that may cause danger at any place (including any road) are inspected,
- (c) all external parts of all machinery and all appliances forming part of the equipment of the quarry are inspected, and
- (d) where, during an inspection under subparagraph (a) or (b), conditions are observed that constitute a significant hazard, or a potential significant hazard, the provisions of Regulation 54 are carried out.

(3) The operator shall ensure that appropriate remedial measures are taken following an inspection under this Regulation.

(4) The operator shall ensure that a record is made of each inspection carried out under paragraph (2) and the appropriate remedial measures taken under paragraph (3).

(5) In this Regulation “inspection” means such visual or more rigorous inspection by a competent person as is appropriate for the purpose.

***Safety equipment.***

20. The operator shall ensure that adequate safety equipment is maintained, ready for use and in good working order at all times and such maintenance is undertaken with due regard to ongoing activities.

***Benches and haul roads.***

21. The operator shall ensure, so far as is reasonably practicable, that—

- (a) benches and haul roads are designed, constructed and maintained so as to allow vehicles and plant to be used and moved upon them safely, and
- (b) where there is a risk of vehicles or plant accidentally leaving any bench or haul road, adequate precautions are taken by the installation of barriers or otherwise to control such risks.

***Safeguarding edges of excavations and lagoons.***

22. The operator—

- (a) shall ensure that material is not placed or stacked at the quarry near the edge of any excavation or lagoon, where it is likely to endanger persons at work,
- (b) shall not at the quarry—
  - (i) place or move, or

(ii) allow to be placed or moved

any load, vehicle, plant or equipment near the edge of any excavation or lagoon where it is likely to cause a collapse of the side of the excavation or lagoon and thereby endanger any person at work, and

(c) where necessary, shall ensure that appropriate barriers are provided.

*Vehicle and traffic rules.*

23. (1) The operator shall make suitable vehicle and traffic rules in order to prevent, as far as reasonably practicable, the risks to persons arising from the use of vehicles at the quarry, including where machines or vehicles enter or leave the quarry.

(2) The operator shall ensure that transport vehicles, earth-moving machinery, materials-handling machinery and locomotives used at the quarry, including those operated by another employer at the quarry—

(a) are of good design and construction taking into account as far as possible ergonomic principles,

(b) are maintained in good working order,

(c) are properly used,

(d) are not operated otherwise than by—

(i) a competent person who has attained the age of 18 years, or

(ii) a person of 16 or 17 years under the close personal supervision of a competent person for the purpose of his or her training, and

(e) have, as appropriate, auxiliary devices as specified in Schedule 2 installed to improve visibility.

*Danger areas.*

24. (1) The operator shall ensure that—

(a) danger areas are clearly marked,

(b) equipment or barriers are installed at any danger area to restrict inadvertent entry to that area by persons at work not authorised to enter,

(c) where a person at work is authorised to enter a danger area, appropriate measures are taken to protect his or her safety, health and welfare.

(2) In this Regulation “danger area” means an area of the quarry at which there is a significant risk to the safety, health or welfare of persons working there, due to the nature of the work being carried out there (including a risk of a person falling a distance likely to cause personal injury) or for any other reason.

*Traffic routes.*

25. The operator shall ensure that—

- (a) traffic routes, including stairs, fixed ladders, loading bays and ramps, are designed, located, laid out and made negotiable to ensure easy, safe and appropriate access in such a way as not to endanger persons working in the vicinity of these traffic routes,
- (b) routes used for pedestrian or goods traffic, or both, including those used for loading and unloading, are dimensioned in accordance with the number of potential users and the type of activity concerned,
- (c) if means of transport are used on traffic routes, a sufficient safety clearance or adequate protective devices are provided for other quarry users, and routes are clearly marked, regularly checked and properly maintained,
- (d) sufficient clearance is allowed between vehicle traffic routes and doors, gates, passages for pedestrians, corridors and staircases, and
- (e) traffic routes are clearly identified for the protection of persons at work.

*Outdoor workstations.*

26. The operator shall ensure that—

- (a) workstations, traffic routes and other areas or installations outdoors that are occupied or used by persons at work in the course of their activities are organised in such a way that pedestrians and vehicles can circulate safely, and
- (b) when persons at work are deployed at outdoor workstations, such workstations are arranged so that they, as far as possible—
  - (i) are protected against inclement weather conditions,
  - (ii) are not exposed to harmful noise levels or to harmful external influences such as gases, vapours or dust, and
  - (iii) cannot slip or fall.

*Protection from falling objects and provision of safety helmets.*

27. (1) The operator shall ensure that—

- (a) adequate measures are taken to prevent persons at work from being struck by any falling object,
- (b) where feasible, persons are protected by collective methods against falling objects, and
- (c) materials, equipment and other articles are laid out or stacked in such a way as to prevent their collapsing or overturning.

(2) The operator shall ensure that every person under his or her direct control at work at the quarry is provided with—

- (a) a suitable safety helmet, or
- (b) other appropriate head protection

that complies with the relevant statutory provisions, unless there is no foreseeable risk of injury to the head.

(3) The operator shall ensure that—

- (a) each safety helmet or other head protection provided for use at the quarry is marked so that it may be identified by the person to whom it has been issued, and
- (b) the helmet or other head protection is not issued to any other person unless and until it has been cleaned and disinfected.

(4) A person shall not, at a quarry, throw, drop or allow to be shot or ejected downwards any material or object, including waste material, from a height where it is liable to cause injury.

(5) A person who moves materials or objects, including waste materials, from a height at a quarry where they are liable to cause injury, shall lower them so as to avoid injury to persons.

*Prevention of drowning.*

28. (1) The operator shall ensure that where, at a quarry, there is a risk of a fall from—

- (a) the edge of land adjacent to water,
- (b) a structure adjacent to or above water, or
- (c) a floating platform

secure fencing is provided near the edge of the land, structure or platform, as appropriate, to prevent such a fall.

(2) To the extent necessary for the access of persons or movement of materials, paragraph (1) does not apply if appropriate precautions are taken, so far as is reasonably practicable, to ensure the safety and health of persons at work.

(3) Without prejudice to paragraph (1), where, in or adjacent to the quarry, there is water into which a person, in the course of his or her work, is liable to fall with risk of drowning, the operator shall ensure that—

- (a) suitable rescue equipment is provided, properly maintained and ready for use,

- (b) arrangements are made for the prompt rescue of any such person who is in danger of drowning, and
  - (c) personal flotation devices conforming to European Norm (EN) or, where appropriate, an equivalent standard, are provided and worn at all times by persons at risk at the quarry.
- (4) The operator shall ensure that personal flotation devices provided under this Regulation are—
- (a) properly maintained,
  - (b) checked before each use,
  - (c) inspected in accordance with the manufacturer's instructions, and
  - (d) subjected to a thorough examination by a competent person every 12 months.
- (5) On the day of an inspection or examination under paragraph (4), the person who carries out the inspection or examination, as the case may be, shall—
- (a) make a report of the results in an approved form,
  - (b) sign and date the report, and
  - (c) give a copy of the report to the operator.

*Escape and rescue facilities.*

29. Without prejudice to section 11 of the Act, the operator shall ensure that—

- (a) adequate means of escape and rescue are provided and maintained, so as to enable persons to leave the quarry promptly and safely in the event of danger,
- (b) adequate means of communication and warning are provided to enable assistance, escape and rescue operations to be launched at once when required,
- (c) instructions concerning the use of emergency equipment and the action to be taken in the event of an emergency at or near the quarry are prepared,
- (d) persons at work at the quarry are trained in appropriate action to be taken in the event of an emergency,
- (e) rescue equipment is provided, maintained in good working condition and kept ready for use at readily accessible, appropriately sited and clearly sign-posted places,

- (f) emergency routes and exits remain clear and lead by the most direct means to the open air, a safe area or a safe assembly or evacuation point,
- (g) the number, distribution and dimensions of the emergency routes and exits are appropriate to the use, equipment and dimensions of the quarry and the maximum number of persons that may be present,
- (h) emergency doors open outwards and are not so locked or fastened that they cannot be easily and immediately opened by any person who may require to use them in an emergency,
- (i) emergency routes and exits, and the traffic routes and doors giving access to such routes and exits, are free from obstruction so that they can be used at any time without hindrance,
- (j) emergency routes and exits requiring illumination are provided with emergency lighting of adequate intensity, and
- (k) specific emergency routes and exits are indicated by signs in accordance with the relevant statutory provisions applying to safety and health signs at work.

*Safety drills.*

30. The operator shall ensure that safety drills are held at the quarry at regular intervals for persons at work there for the purposes of—

- (a) training the persons who work at the quarry in the appropriate actions to be taken in an emergency, including, where appropriate, the correct use, handling and operation of emergency equipment, and
- (b) training and checking the skills of such persons to whom specific duties involving the use, handling and operation of such equipment have been assigned in the event of an emergency.

*Fire and explosion hazards.*

31. (1) This Regulation applies without prejudice to section 11 of the Act and the Fire Services Acts 1981 and 2003 (No. 30 of 1981 and No.15 of 2003).

(2) The operator shall ensure that—

- (a) no person at work at the quarry uses a naked flame or carries out any work that could give rise to a risk of an unintended fire or explosion, unless sufficient measures to prevent such a fire or explosion are taken, and
- (b) no person smokes or carries a lighted pipe, cigar or cigarette in any part of the quarry where there is a risk of fire or explosion.

(3) The operator, depending on the features of the quarry, the dimensions and use of rooms, the on-site equipment, the physical and chemical properties



of the substances present and the maximum potential number of persons present at work, shall provide or cause to be provided at the quarry an adequate number of—

- (a) appropriate fire-fighting devices, and
  - (b) where required, fire detectors and alarm systems.
- (4) The operator shall ensure that—
- (a) fire-fighting devices, fire detectors and alarm systems are regularly checked and properly maintained,
  - (b) appropriate tests and fire drills take place at regular intervals,
  - (c) non-automatic fire-fighting equipment is easily accessible, easy to use and, where necessary, protected from potential damage, and
  - (d) fire-fighting equipment is indicated by signs in accordance with the relevant statutory provisions applying to safety and health signs at work.

*Explosive or harmful atmospheres.*

32. (1) Where there is a potential for harmful or explosive atmospheres to be present at the quarry, the operator shall ensure that-

- (a) steps are taken in order to determine whether potentially harmful or explosive substances are present in the atmosphere and, where such substances are present, the concentration of such substances in the atmosphere is measured,
- (b) automatic devices are provided that are designed to—
  - (i) monitor continuously the concentration of explosive or flammable gases in the atmosphere,
  - (ii) trigger an alarm if such concentration reaches a dangerous level, and
  - (iii) cut off power to any plant that, because of the concentration of such gases in the atmosphere, gives rise to a risk to the safety and health of any person,
- (c) where devices are provided in accordance with subparagraph (b)(i), a record of the levels of concentration of such gases in the atmosphere is made at such intervals as are specified in the safety statement,
- (d) at any place in the quarry where there is a risk of the occurrence or accumulation of an explosive atmosphere, all necessary measures are taken in order—
  - (i) to prevent such occurrence and accumulation, or

- (ii) where this is not practicable, to prevent the ignition of such an atmosphere, and
  - (e) at any place in the quarry where there is a risk of the occurrence or accumulation of a substance harmful to health in the atmosphere, appropriate measures are taken in order to—
    - (i) prevent such occurrence and accumulation or, where this is not practicable,
    - (ii) extract or disperse that harmful substance in such a way that persons are not placed at risk.
- (2) When persons at work are present in a particular place in the quarry where they are exposed to a substance in the atmosphere that is, or may be, harmful to health, the operator shall ensure that—
- (a) appropriate and sufficient breathing and resuscitation equipment is—
    - (i) available,
    - (ii) suitably stored, and
    - (iii) maintained,
  - (b) a sufficient number of persons trained in the use of such equipment are present, and
  - (c) where harmful substances accumulate or may accumulate in the atmosphere, appropriate measures are taken to ensure—
    - (i) their suppression at source,
    - (ii) their extraction at source,
    - (iii) their removal, or
    - (iv) the dilution of accumulations of such substances, in such a way that persons are not at risk.

*Lighting.*

33. The operator shall ensure that—

- (a) the quarry is provided throughout with lighting capable of supplying illumination sufficient to ensure the health and safety of persons therein,
- (b) workstations, as far as possible—
  - (i) receive sufficient natural light, and

- (ii) bearing in mind the climatic conditions, are equipped with artificial lighting adequate for the protection of the safety and health of persons at work,
- (c) lighting installations in rooms containing workstations and in passageways are placed in such a way that the type of lighting provided does not present a risk of accident to persons at work, and
- (d) every part of the quarry in which a person is likely to be exposed to risks in the event of the failure of artificial lighting is provided with emergency lighting of adequate intensity and, where that is not possible, persons at work in that place are provided with an appropriate personal lamp.

*Prevention of unauthorised entry.*

34. The operator shall ensure that—

- (a) quarry boundaries are signposted and laid out so as to be clearly visible and identifiable,
- (b) safe means of access and egress at the quarry are—
  - (i) provided and maintained, and
  - (ii) where appropriate, indicated,
- (c) adequate precautions are taken to protect persons present at, or in the vicinity of, the quarry from risks that may arise from quarrying operations, and
- (d) adequate precautions are taken to prevent unauthorised entry to the quarry including, where appropriate, the provision of barriers.

## PART 4

### SAFETY PROVISIONS FOR ANCILLARY ACTIVITIES AND INSTALLATIONS

*Definition of “place of work” (Part 4).*

35. In this Part “place of work” means—

- (a) premises at the quarry housing workstations, and
- (b) other premises at the quarry to which persons at work have access for the purpose of the immediate and ancillary activities and installations of the quarry, including premises providing accommodation, rest and sanitary facilities.

*Stability and solidity.*

36. The operator shall ensure that a place of work, whether temporary or permanent, has a structure and solidity appropriate to its use, and—

- (a) has been designed and constructed, and

(b) is operated, supervised and maintained,

so as to withstand the environmental forces anticipated and to be safe and without risk to health.

*Floors, walls and ceilings of rooms.*

37. (1) The operator shall, in respect of a place of work, ensure that—

(a) floors—

(i) have no dangerous bumps, holes or slopes, and

(ii) are fixed, stable and not slippery,

(b) workstations are adequately insulated, having regard to the type of work activity involved and the physical activity of the persons at work, and

(c) surfaces of floors, walls and ceilings are such that they—

(i) can be cleaned, and are cleaned, and

(ii) where appropriate, refurbished

to an appropriate standard of hygiene.

(2) The operator shall ensure that transparent or translucent walls, and in particular, glass partitions, in a place of work or in the vicinity of outdoor workstations and traffic routes, are—

(a) clearly indicated, and

(b) made of safety material, or are shielded from such places or routes,

in order to prevent persons from coming into contact with such walls or partitions, or being injured in the event of such walls or partitions shattering.

*Room dimensions, air space in rooms and freedom of movement at workstations.*

38. The operator shall, in respect of a place of work, ensure that—

(a) rooms have sufficient surface area, height and air space to allow persons at work to perform their work without risk to their safety, health or welfare, and

(b) the dimensions of the free space at the workstation allow persons at work sufficient freedom of movement and enable them to perform their work safely.

*Windows and skylights.*

39. The operator shall, in respect of a place of work, ensure that—

- (a) windows, skylights and ventilation devices—
  - (i) that are meant to be opened, adjusted or secured are designed so that these activities can be carried out in a safe manner, and
  - (ii) are not positioned so as to constitute a hazard to persons at work when open, and
- (b) windows and skylights can be cleaned without risk.

*Doors and gates.*

40. The operator shall, in respect of a place of work, ensure that—

- (a) the position, number and dimensions of doors and gates, and the materials used in their construction, are determined by the nature and use of the rooms or areas concerned,
- (b) transparent doors are appropriately marked at a conspicuous level,
- (c) swing doors and gates are transparent or have see-through panels,
- (d) if transparent or translucent surfaces in doors and gates are not made of safety material and there is a danger that persons at work may be injured in the event of a door or gate shattering, the surfaces are protected against breakage,
- (e) sliding doors are fitted with a safety device to prevent them from being derailed or falling over,
- (f) doors and gates opening upwards are fitted with a mechanism to secure them against falling back,
- (g) doors forming part of escape routes are—
  - (i) appropriately marked,
  - (ii) possible to open from the inside at any time without special assistance, and
  - (iii) possible to open when the place of work is occupied,
- (h) doors for pedestrians are provided in the immediate vicinity of any gates intended essentially for vehicle traffic, unless it is safe for pedestrians to pass through and such doors are clearly marked and left permanently unobstructed,
- (i) mechanical doors and gates function in such a way that there is no risk of accident to persons at work, are fitted with easily identifiable and accessible emergency shutdown devices and, where they open

automatically in the event of a power failure, it is also possible to open them manually, and

- (j) where chains or similar devices are used to prevent access to any place, these are clearly visible and appropriately identified by signs denoting any prohibition or warning.

*Ventilation.*

41. The operator shall, in respect of a place of work, ensure that—

- (a) steps are taken to ensure that there is sufficient fresh air in enclosed rooms, having regard to the working methods used and the physical demands placed on the persons at work,
- (b) where a forced ventilation system is used, it is maintained in good working order,
- (c) any breakdown in a forced ventilation system is indicated by a control system, where this is necessary for the health of persons at work,
- (d) where air-conditioning or mechanical ventilation installations are used, they operate in such a way that persons at work are not exposed to draughts that cause discomfort or ill health, and
- (e) any deposit or dirt likely to create danger to the health of persons at work by entering into the atmosphere is removed without delay.

*Temperature in rooms.*

42. The operator shall, in respect of a place of work, ensure that—

- (a) during working hours, the temperature in rooms containing workstations is suitable for the persons at work, having regard to the working methods being used and the physical demands placed on them,
- (b) the temperature in rest areas, rooms for duty staff, sanitary facilities, canteens and first aid rooms is appropriate to the particular purpose of such areas, and
- (c) in relation to windows, skylights and glass partitions, excessive effects of sunlight are avoided, having regard to the nature of the work and the characteristics of the place of work.

## PART 5

### EXPLOSIVES

*Application of Part 5.*

43. This Part shall apply to the storage, transport, use and disposal of explosives at a quarry.

*Appointment of explosives supervisors, shotfirers and storekeepers.*

44. (1) The operator shall—
- (a) appoint one or more competent persons as explosives supervisors at the quarry and obtain confirmation of acceptance of such appointments in writing,
  - (b) ensure that, at any given time, there is only one person acting as the explosives supervisor at the quarry,
  - (c) appoint one or more competent persons as shotfirers and trainee shotfirers at the quarry,
  - (d) appoint, where necessary, one or more competent persons as storekeepers to ensure the safe storage and transport of explosives at the quarry, and
  - (e) ensure that a record of the appointment at the quarry of any explosives supervisor, shotfirer and storekeeper is kept at the quarry or some other suitable place for the period of his or her appointment and for 3 years following the termination of his or her appointment.
- (2) Nothing in these Regulations shall prevent a person appointed as quarry manager under Regulation 10(1)(a) from being appointed as explosives supervisor or shotfirer, or both, under this Regulation, provided that he or she is competent to discharge those functions.

*Storage, transport, use and disposal of explosives.*

45. The operator shall ensure that—
- (a) so far as is reasonably practicable, all explosives are stored, transported, used and disposed of safely and securely,
  - (b) operations involving the storage, transport, use or disposal of explosives are carried out by, or under the close personal supervision of, persons appointed under Regulation 44,
  - (c) such facilities and equipment as are necessary to enable shotfiring operations to be carried out safely are provided,
  - (d) any vehicle that is provided for use in relation to shotfiring operations is safe for use and so marked during such use as to be readily identifiable from a distance,
  - (e) detonators are stored and transported in separate containers from other explosives, and
  - (f) explosives are kept at all times in a locked explosives store or under the close supervision of a suitable person.

*Shotfiring rules.*

46. The operator shall ensure that suitable shotfiring rules are made and complied with. Such rules shall set out procedures for the following:

- (a) shotfiring operations at the quarry,
- (b) appointing explosives supervisors, shotfirers, trainee shotfirers and storekeepers,
- (c) authorising other persons who will be involved with the storage, transport, use or disposal of explosives,
- (d) dealing with misfires,
- (e) disposing of surplus explosives, detonators, accessories and packaging.

*Blast specification.*

47. The operator shall ensure that—

- (a) an adequate written blast specification, including identification of the danger zone based on an assessment of the risks, is prepared by the explosives supervisor for each shotfiring operation at the quarry to ensure that, so far as is reasonably practicable, when such shotfiring occurs, it will not give rise to danger, and
- (b) a copy of any relevant information contained in the blast specification referred to in paragraph (a) is given to any person upon whom it imposes duties.

*Shotfiring operations.*

48. The operator shall ensure that—

- (a) so far as is reasonably practicable, each shotfiring operation is carried out safely and in accordance with the shotfiring rules and blast specification,
- (b) all shotfiring operations are carried out under the close personal supervision of the shotfirer,
- (c) a trainee shotfirer at the quarry does not fire shots, except when—
  - (i) he or she is under the close personal supervision of a shotfirer, or
  - (ii) the operator is satisfied that he or she-
    - (I) has completed a suitable period of training,
    - (II) has appropriate practical experience, and
    - (III) is competent,

and



- (d) records of all shotfiring operations carried out at the quarry are kept.

*Duties of explosives supervisor and shotfirer.*

49. (1) The explosives supervisor at the quarry shall—
- (a) advise the operator as to the observance of the relevant statutory provisions in relation to the storage, transport, use and disposal of explosives at the quarry,
  - (b) organise and supervise all work involving the storage, transport, use and disposal of explosives at the quarry,
  - (c) based on an assessment of the risks, prepare in writing a blast specification for each shotfiring operation which, so far as is reasonably practicable, shall ensure that, when shotfiring occurs, it will not give rise to danger,
  - (d) ensure that, prior to shotfiring operations being carried out, he or she is familiar with the area that may be affected by the shotfiring operations, inspects the face to be blasted and is satisfied that the blast specification is adequate,
  - (e) ensure that no person carries out any work in relation to explosives unless they are trained, adequately supervised and instructed to do so, and
  - (f) ensure that all equipment to be used in shotfiring operations is suitable, safe and adequately maintained.
- (2) The explosives supervisor and the shotfirer at a quarry shall carry out any shotfiring operations in accordance with the shotfiring rules and blast specification.
- (3) Before a shot is fired, a shotfirer shall—
- (a) ensure that no person is within, or may enter within, the danger zone specified in the blast specification when the shot is being fired,
  - (b) check the shotfiring system or circuit to ensure that it has been connected correctly,
  - (c) where electrical detonators are used, ensure that they have been correctly connected to the shotfiring system or circuit and that the shotfiring system or circuit is tested with an instrument suitable for the purpose,
  - (d) where appropriate, ensure that the electrical integrity of the shotfiring system or circuit is such as to make a misfire unlikely, and
  - (e) ensure that a warning signal is given and that the shot is fired from a safe place.

- (4) After a shot is fired, a shotfirer shall—
- (a) ensure that no person enters within the danger zone specified in the blast specification until the all-clear signal is given,
  - (b) inspect the blast site to check the result of the blast, the condition of the face and whether any misfire has occurred,
  - (c) report immediately any hazardous conditions or misfires to the operator and the explosives supervisor, and
  - (d) ensure that normal working is resumed only when he or she is satisfied that it is safe to do so.

*Misfires.*

50. In the event of a misfire, the operator, in consultation with the quarry manager (if not the same person), shall ensure, so far as is reasonably practicable, that—

- (a) no person, other than himself or herself, the explosives supervisor, the shotfirer, any trainee shotfirer or any other person authorised by him or her, 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 shotfiring apparatus has been disconnected from the shot,
- (b) appropriate steps are taken to determine the cause of the misfire and to deal with it, and
- (c) a suitable record is kept of the misfire and any action taken.

*Prohibited activities.*

51. (1) No person, other than—

- (a) a person engaged in the transport of explosives or detonators to or from a quarry,
- (b) an explosives supervisor,
- (c) a shotfirer or trainee shotfirer,
- (d) a storekeeper, or
- (e) any other person authorised by the operator to do so

shall handle explosives or detonators at a quarry.

(2) No person shall bring any substance or article (other than explosives) likely to cause an unintended explosion or fire within 100 metres of any explosives or (except for the purpose of lighting igniter cord or safety fuse) take any naked flame within 100 metres of any explosives at a quarry.

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

(4) No person shall charge or fire a shot—

(a) unless there is sufficient visibility to ensure that work preparatory to shotfiring, the shotfiring operation and any site inspection after the shot is fired can be carried out safely, or

(b) in a shothole in which a shot has previously been fired, unless he or she is dealing with a misfire in accordance with action taken under Regulation 50(b).

(5) No person shall fire a shot at a quarry—

(a) unless he or she is an explosives supervisor, shotfirer or trainee shotfirer within the meaning of these Regulations, or

(b) other than by means of a suitable exploder or suitable safety fuse.

(6) No person shall cap a safety fuse with a detonator unless he or she is using equipment designed for the purpose and he or she is in a suitably sheltered place designated by the operator for the purpose.

(7) No person, other than an explosives supervisor, a shotfirer or trainee shotfirer, shall dispose of surplus explosives, detonators, accessories or packaging remaining following shotfiring operations at a quarry.

## PART 6

### SAFETY OF EXCAVATIONS (INCLUDING QUARRY FACES), TIPS AND LAGOONS

*General duty to ensure safety of excavations, tips and lagoons.*

52. The operator shall ensure that excavations (including quarry faces), tips and lagoons are designed, constructed (in relation to tips and lagoons), operated and maintained so as to ensure, so far as is reasonably practicable, that instability or movement which is likely to give rise to a risk to the safety, health and welfare of any person is avoided.

*Operating procedures for excavations, tips and lagoons.*

53. The operator shall ensure that suitable operating procedures are in place for the safe operation of excavations, tips and lagoons and that such procedures, in particular, specify—

(a) the manner in which such activities are to be carried out,

- (b) the nature and extent of supervision of such activities, and
- (c) the protective measures to be taken during such activities to ensure the safety, health and welfare of any person and the safety and stability of the excavation, tip or lagoon.

*Appraisal and site investigation of excavations, tips and lagoons.*

54. (1) Subject to paragraph (2), the operator shall ensure that, before quarrying operations commence or re-commence in a particular area in the quarry, a suitable appraisal of all proposed and existing—

- (a) excavations,
- (b) tips, and
- (c) lagoons

in that particular area is undertaken by a competent person in order to determine whether any such excavation, tip or lagoon represents a significant hazard, or a potential significant hazard.

(2) Where the face height of an excavation in a particular area of the quarry planned to be worked exceeds 20 metres, the operator shall ensure that, before quarrying operations commence or re-commence in that particular area, a geotechnical assessment is carried out in accordance with Regulation 55.

(3) Where an appraisal by a competent person under paragraph (1) identifies a significant hazard that cannot be rectified immediately in a safe manner, the operator shall ensure that the provisions of subparagraphs (a) to (c) of paragraph (5) are complied with.

(4) Where an appraisal by a competent person under paragraph (1) identifies a potential significant hazard that cannot be rectified immediately in a safe manner, the operator shall ensure that—

- (a) the provisions of subparagraphs (a) and (b) of paragraph (5) are complied with, and
- (b) a geotechnical specialist carries out a site investigation to determine whether a geotechnical assessment under Regulation 55 is required.

(5) Where the conclusion reached by the geotechnical specialist, following a site investigation made under this Regulation, is that the excavation, tip or lagoon represents a significant hazard, the operator shall ensure that—

- (a) appropriate protective measures are taken, including informing all persons affected by it,
- (b) only work that can be carried out safely is undertaken at the excavation, tip or lagoon, and

(c) a geotechnical assessment is carried out in accordance with Regulation 55.

(6) The operator shall ensure that—

(a) any significant findings, and

(b) any conclusions reached and the reasons for those conclusions

made under an appraisal or a site investigation pursuant to this Regulation are recorded by the competent person or the geotechnical specialist, as the case may be.

*Geotechnical assessments.*

55. (1) In this Part “geotechnical assessment” means an assessment carried out by a geotechnical specialist identifying and assessing all factors liable to affect the stability and safety of a proposed or existing excavation, tip or lagoon and shall include—

(a) preparation by or under the supervision of the geotechnical specialist or, as appropriate, consideration by the geotechnical specialist of the documents and particulars specified in Schedule 3,

(b) the conclusions of the geotechnical specialist as to—

(i) the safety and stability of the existing or proposed excavation, tip or lagoon being assessed, including his or her conclusions as to whether the excavation, tip or lagoon represents a significant hazard by way of instability or movement,

(ii) whether any remedial works are required in relation to the excavation, tip or lagoon being assessed and the date by which such works should be completed,

(iii) the date by which the next geotechnical assessment should take place, and

(iv) where appropriate, any required changes to the operating procedures in respect of the excavation, tip or lagoon.

(2) The operator shall ensure that—

(a) any significant findings made during a geotechnical assessment required under Regulation 54, any conclusions reached in accordance with paragraph (1)(b), and the reasons for those conclusions are recorded by the geotechnical specialist undertaking the assessment,

(b) the geotechnical specialist signs and dates any such record and records his or her professional qualifications thereon,

- (c) (i) any information available that may be relevant for the purposes of a geotechnical assessment is made available to the geotechnical specialist undertaking that assessment, and
- (ii) sufficient records are kept of the nature, quantity and location of all substances accumulated or deposited at a tip, excavation or lagoon to enable an accurate assessment of the stability of that tip, excavation or lagoon to be made,
- (d) any remedial works identified during the geotechnical assessment in accordance with paragraph (1)(b)(ii) are undertaken by the date specified or before quarrying operations are resumed,
- (e) where the conclusion reached by a geotechnical specialist in accordance with paragraph (1)(b) is that there is no significant hazard—
  - (i) the geotechnical specialist specifies the frequency with which appraisals under Regulation 54 are to be conducted in the future in order to ensure the continued safety and stability of the excavation, tip or lagoon, and
  - (ii) a record of that specification is made by the geotechnical specialist, and
- (f) copies of all geotechnical assessments are kept at the quarry for inspection and are retained by the operator for at least 10 years from the date they were made.

## PART 7

### AIR RECEIVERS

*Definition of “air receiver” (Part 7).*

56. In this Part “air receiver” means any of the following:

- (a) a vessel for containing compressed air and connected with air compressing plant, other than—
  - (i) a pipe,
  - (ii) a coil, or
  - (iii) an accessory, fitting or other part of a compressed air plant,
- (b) a fixed vessel for containing compressed air or compressed exhaust gases and used for the purpose of starting an internal combustion engine,
- (c) a vessel forming part of the equipment of a vehicle at a quarry for containing compressed air and used to operate the braking system of the vehicle,

- (d) a vessel (not being part of a spraying pistol) used for the purpose of spraying, by means of compressed air, paint, varnish, lacquer or similar material,
- (e) a vessel in which oil is stored and from which it is forced out by compressed air.

*Safety precautions.*

57. (1) Subject to paragraph (2), the operator shall ensure that every air receiver at a quarry—

- (a) has the safe working pressure marked on it so as to be plainly visible,
- (b) in the case of an air receiver connected with the air compressing plant, is either constructed so as to withstand with safety the maximum pressure that can be obtained in the compressor, or is fitted with a reducing valve or other suitable appliance to prevent the safe working pressure of the air receiver being exceeded,
- (c) is fitted with a suitable safety valve adjusted so as to permit the air to escape as soon as the safe working pressure is exceeded,
- (d) is fitted with an accurate pressure gauge indicating the pressure in the air receiver,
- (e) is fitted with a suitable appliance for draining the air receiver,
- (f) is fitted with a blow-off cock through which any fluid that may have accumulated in the air receiver may be blown off,
- (g) is provided with a suitable manhole, handhole, or other means that will allow the interior of the air receiver to be thoroughly cleaned, and
- (h) in a case where more than one air receiver is in use at the quarry, bears a distinguishing mark that is easily visible.

(2) The requirement of paragraph (1)(e) shall not apply to an air receiver referred to in Regulation 56(d) or (e) and the requirement of paragraph (1)(g) shall not apply to an air receiver referred to in Regulation 56(c).

(3) For the purpose of paragraph (1) relating to safety valves and pressure gauges and subject to paragraph (4), any set of 2 or more air receivers supplied with air through a single pipe may be treated as one air receiver.

(4) In a case where a reducing valve or other suitable appliance to prevent the safe working pressure being exceeded is required to be fitted to a set of air receivers supplied with air through a single pipe, paragraph (3) shall not apply unless the valve or appliance is fitted on the single pipe.

*Maintenance and examination.*

58. (1) The operator shall take all practicable steps to ensure that every air receiver at a quarry and its fittings are of sound construction and properly maintained and that the blow-off cock fitted thereto is opened, while the plant is running, at least once in every working day.

(2) The operator shall ensure that every air receiver at a quarry is thoroughly cleaned and examined by a competent person at least once in every period of 2 years, but in the case of an air receiver so constructed that the internal surface cannot be thoroughly examined—

(a) the person making any such examination may specify in writing a period exceeding 2 years but not exceeding 4 years within which the next examination is to be made, and

(b) a suitable hydraulic test of the air receiver is carried out in lieu of the internal examination.

(3) A person carrying out an examination and test under paragraph (2) shall—

(a) promptly prepare a report containing the particulars as set out in Schedule 4, and

(b) within 24 hours of completing the examination, provide the report, or a copy thereof, to the person on whose behalf the inspection was carried out.

(4) Where a report under this Regulation specifies that the safe working pressure of the air receiver to which it relates is to be reduced, or that such air receiver cannot continue to be safely used unless specified repairs are carried out, the operator shall ensure that the air receiver is not used until it is rendered safe, and within 7 days of receiving the report, cause a copy of the report to be sent to the Authority.

(5) If an inspector is not satisfied as to—

(i) the competence of the person who carried out an examination under this Regulation, or

(ii) the thoroughness of the examination carried out

he or she may require the air receiver to be re-examined by a competent person nominated by him or her, and the operator shall make the necessary facilities available for such re-examination.

(6) If, as a result of any re-examination under paragraph (5) it appears that the report of the examination under paragraph (2) was inadequate or inaccurate in any respect, the cost of the re-examination shall be recoverable by the Authority from the operator as a simple contract debt in any court of competent



jurisdiction and in any legal proceedings the report of the re-examination purporting to be signed by the person making it shall be received in evidence of the facts stated therein without further proof unless the contrary is shown.

## PART 8

### GENERAL HEALTH HAZARDS

#### *Health hazards.*

59. (1) The operator, where persons are liable to be exposed to any chemical, physical or biological hazard to such an extent as is liable to be dangerous to health, shall ensure that appropriate preventive measures are taken at the quarry against that exposure.

(2) The preventive measures referred to in paragraph (1) shall include—

- (a) wherever possible, the replacement of a hazardous substance by a harmless or less hazardous substance,
- (b) technical measures applied to the plant, machinery, equipment or process, or
- (c) where it is not possible to comply with subparagraph (a) or (b), other effective measures, including the use of personal protective equipment and protective clothing.

#### *Atmospheric influences.*

60. The operator shall ensure that persons working outdoors at the quarry are protected against atmospheric conditions that could affect their safety and health.

#### *Disposal of waste.*

61. The operator shall ensure that waste from the quarry is not—

- (a) destroyed, or
- (b) otherwise disposed of

in a manner liable to be injurious to the safety and health of persons.

#### *Stationary internal combustion engines and exhaust gases.*

62. The operator shall ensure that—

- (a) no stationary internal combustion engine is used at the quarry in any enclosed or confined place, unless specific provision is made for conducting the exhaust gases from the engine into the open air, or
- (b) any such enclosed or confined place is adequately ventilated so as to prevent danger to health from the exhaust gases.

*Health surveillance.*

63. Where an employer at a quarry makes health surveillance available to persons at work in accordance with section 22 of the Act, he or she shall ensure that such health surveillance is made available before those persons are assigned to particular work activities in the quarry.

## PART 9

## WELFARE

*Shelters and accommodation for clothing and taking meals.*

64. (1) The operator shall ensure that, subject to paragraphs (2) and (3), there is provided at or in the immediate vicinity of the quarry for the use of persons at work and conveniently accessible to them—

- (a) adequate and suitable enclosed accommodation for taking shelter during interruptions of work owing to bad weather and for depositing clothing not worn during working hours, being accommodation containing, where practicable, adequate and suitable means of enabling such persons to warm themselves and to dry wet clothing,
- (b) adequate and suitable accommodation for the deposit of protective clothing used for work and kept, when not in use, at or in the immediate vicinity of the quarry with such arrangements as are practicable for drying such clothing if it becomes wet,
- (c) adequate and suitable accommodation affording protection from the weather and including sufficient tables with impermeable surfaces and seats with backs for taking meals,
- (d) facilities for boiling water and, where there are more than 5 persons at work at a quarry and heated food is not otherwise available at the quarry, adequate facilities for heating food, and
- (e) an adequate supply of potable drinking water and possibly another suitable non-alcoholic beverage at a convenient point or convenient points.

(2) For the purposes of paragraph (1), in determining whether accommodation is conveniently accessible, account shall be taken of any transport provided for the persons at work.

(3) For the purposes of paragraph (1)(c), in determining whether accommodation of any kind provided in pursuance of that subparagraph at any time and place is adequate, account shall be taken of the number of persons at work who appear likely to use such accommodation at that time and place.

(4) The operator shall ensure that all accommodation provided in accordance with this Regulation is—

- (a) properly ventilated, adequately lighted, kept in a clean, hygienic and orderly condition, and
- (b) not used for the deposit or storage of materials or plant.

*Changing rooms and lockers.*

65. (1) An operator shall provide or cause to be provided—

- (a) appropriate changing rooms for persons at work if they have to wear special work clothes and if, for reasons of health or propriety, they cannot be expected to change in another area, which are—
  - (i) easily accessible,
  - (ii) of sufficient capacity, and
  - (iii) provided with seating,
- (b) separate changing rooms or separate use of changing rooms for men and women, and
- (c) adequate provision for drying wet or damp work clothes.

(2) If circumstances so require where work clothes are likely to be contaminated by dangerous substances, atmospheric conditions or the conditions of the place of work, the operator shall provide, or cause to be provided, facilities in changing rooms to enable working clothes to be kept in a place separate from personal clothing and effects.

(3) If changing rooms are not required as referred to in paragraph (1), the operator shall ensure that every person at work is provided with a place to store his or her own clothes and personal effects.

*Washing facilities.*

66. (1) The operator shall ensure that adequate and suitable facilities for washing appropriate to the numbers of persons at work and the duration of the work are provided at the quarry, including—

- (a) adequate troughs or washbasins having in every case a smooth impervious internal surface,
- (b) adequate and suitable means of cleaning and drying, being either soap and towels or other means, as the case may require, and
- (c) a sufficient supply of hot and cold or warm running water.

(2) The operator shall ensure that—

- (a) washing facilities provided are conveniently accessible from the accommodation for taking meals and are adequately lighted, properly ventilated and are kept in a clean and orderly condition,

- (b) provision is made for separate washbasins, or separate use of washbasins for men and women when so required for reasons of propriety,
- (c) suitable showers in sufficient numbers are provided for persons at work, if required by the nature of the work or for health reasons,
- (d) provision is made for separate shower rooms or separate use of shower rooms for men and women,
- (e) the shower rooms are sufficiently large to permit each person to wash without hindrance in conditions of an appropriate standard of hygiene and such showers are equipped with hot and cold running water, and
- (f) where the rooms containing showers or washbasins are separate from changing rooms, there is easy access between the two.

*Sanitary conveniences.*

67. (1) The operator shall ensure that adequate and suitable sanitary conveniences appropriate to the number of persons at work at the quarry are provided.

(2) The operator shall ensure that—

- (a) every sanitary convenience, other than a convenience suitable only as a urinal, has a proper door fastening and is partitioned off to secure privacy,
- (b) every sanitary convenience required to be provided is sufficiently ventilated and does not communicate with any workroom or mess room except through the open air or through an intervening ventilated space,
- (c) every sanitary convenience is under cover,
- (d) the sanitary conveniences are so arranged as to be conveniently accessible to persons at work at all times while they are at the quarry and are, where practicable, convenient to the washing facilities,
- (e) provision is made for separate sanitary conveniences or separate use of sanitary conveniences for men and women, and
- (f) every sanitary convenience is maintained in a clean and hygienic condition.

*Safe access to places where facilities are provided.*

68. The operator shall ensure that—

- (a) safe means of access and egress is provided and maintained to and from every place at which any facilities provided in accordance with this Part are situated, and
- (b) every such place is made and kept safe for persons using such facilities.

*Pregnant women and nursing mothers.*

69. The operator shall ensure that pregnant women and nursing mothers at work at the quarry are provided with appropriate facilities as set out in other relevant legislation.

*Persons with disabilities.*

70. The operator shall, where necessary, ensure that a quarry is organised to take account of persons at work with disabilities, in particular as regards doors, passageways, staircases, showers, washbasins, lavatories and workstations used or occupied directly by those persons.

*Rest rooms.*

71. The operator shall ensure that—

- (a) where necessary, and in particular, where the number of persons at work requires it, they are provided with an easily accessible rest room,
- (b) rest rooms are large enough and equipped with tables, and with seats with backs, adequate for the number of persons at work, and
- (c) if working hours are regularly and frequently interrupted and there is no specific rest room, other rooms are provided in which persons at work can stay during such interruptions, where this is required for their safety or health.

## SCHEDULE 1

## QUARRIES SKILLS CERTIFICATION SCHEME

1. (1) The requirement for the issue of a FETAC award under the Quarries Skills Certification Scheme (referred to in this Schedule as the “Scheme”) is successful completion of training under the Scheme in any of the following tasks:

- (a) slinging and signalling;
- (b) telescopic handler operation;
- (c) tractor and dozer operation;
- (d) mobile crane operation;
- (e) crawler crane operation;
- (f) articulated dumper operation;
- (g) site dumper operation;
- (h) 180° excavator operation;
- (i) mini-digger operation — where the person has not been trained in the task referred to at subparagraph (h);
- (j) 360° excavator operation;
- (k) rigid dump truck operation;
- (l) front end loader operation;
- (m) explosives storekeeping;
- (n) shotfiring;
- (o) explosives supervision;
- (p) such other quarrying-related tasks as may be prescribed by the Minister.

(2) Where it is necessary to gain experience prior to undertaking a programme related to the tasks listed at subparagraph (1) it is permissible for a person to undertake those tasks during the training period required by the programme if—

- (a) the person concerned is at all times under the close personal supervision of a person who is in possession of a current registration card relevant to the task concerned, and

- (b) the person concerned is in possession of an appropriate identification identifying the person as a trainee in the relevant skills and an associated documented log-book recording experience gained in the skill in which the person is undergoing training.

2. The requirement for the issue of a registration card under the Scheme is possession of—

- (a) the relevant FETAC award under the Scheme,
- (b) an equivalent FETAC award, or
- (c) an equivalent award approved by a body in another Member State of the European Communities recognised by FÁS as equivalent to the FETAC award under the Scheme.

## SCHEDULE 2

## VEHICLES REQUIRING AUXILIARY DEVICES AND VISUAL AIDS

| <b>Machine Type</b>   | <b>Reversing and visual aids required</b>  |
|---|--|
| Off-road dump trucks (trailer to rear of driver)<br>— payload greater than 7 tonnes | Reversing alarm and flashing beacon with CCTV or convex mirrors or a combination of both to allow vision from the driver's seat of all points more than 1 metre high and 1 metre from the machine at each side and at the rear of the driver                   |
| Dumpers (front tip) no cab  | Reversing alarm and flashing beacon  |
| Dumpers (front tip) with cab  | Convex mirrors; reversing alarm and flashing beacon  |
| Wheel loaders (loading shovels), including skid steer loaders                       | Reversing alarm and flashing beacon with CCTV or convex mirrors or a combination of both to allow vision from the driver's seat of all points more than 1 metre high and 1 metre from the machine at each side and at the rear of the driver                   |
| Backhoe loaders (JCB type machines)   | Convex mirrors; reversing alarm and flashing beacon  |
| 360 <sup>o</sup> excavators   | Movement alarm and flashing beacon with CCTV or convex mirrors or a combination of both to allow vision from the driver's seat (without slewing) at all points more than 1 metre high and 1 metre from the machine   |
| Scrapers (bulldozers)   | Reversing alarm and flashing beacon with CCTV or convex mirrors or a combination of both to allow vision from the driver's seat of all points more than 1 metre high and 1 metre from the machine at each side and at the rear of the driver                   |
| Tracked type tractors (bulldozers)  | Reversing alarm and flashing beacon with CCTV or convex mirrors or a combination of both to allow vision from the driver's seat (without slewing) at all points more than 1 metre high and 1 metre from the machine at each side and at the rear of the driver |
| Graders   | CCTV, convex mirrors, reversing alarm and flashing beacon  |
| Telescopic handlers   | Reversing alarm and flashing beacon with CCTV or convex mirrors or a combination of both to allow vision from the driver's seat of all points more than 1 metre high and 1 metre from the machine at each side and at the rear of the driver                   |



## SCHEDULE 3

Regulation 55.

## GEOTECHNICAL ASSESSMENTS

DOCUMENTS AND PARTICULARS TO BE INCLUDED IN  
GEOTECHNICAL ASSESSMENT**Excavation, tip or lagoon.**

1. In this Schedule “excavation, tip or lagoon” includes, where appropriate, a proposed excavation, tip or lagoon.

**Site survey.**

2. An accurate plan on a scale not less detailed than 1:2,500 showing—
- (a) the boundaries of the quarry upon which the excavation, tip or lagoon is or is to be situated,
  - (b) the site of the excavation, tip or lagoon,
  - (c) any contiguous land or structure that might be affected by the excavation, tip or lagoon,
  - (d) buried quarry workings, known cave systems, active or former landslips, springs, artesian wells, watercourses, mine workings (whether in use or not) and other natural or man-made features, including tunnel pipes or culverts that might—
    - (i) affect the safety of the excavation, tip or lagoon, or
    - (ii) be relevant for the purpose of determining whether quarrying operations can be carried out safely.

This plan shall be contoured, orientated and correlated to the Ordnance Datum Survey National Grid at a vertical interval not greater than 5 metres and marked with squares corresponding to the 100 metre squares shown on Ordnance Survey sheets on the scale of 1:2,500.

**Site investigation.**

3. A record of all relevant site investigation information including surveys, tests, boreholes and groundwater measurements made for the purpose of the geotechnical assessment together with the results of any testing including the strength of materials within and beneath the tip or within the excavated slope. The record shall include any known historical information relevant to the site investigation.

**Cross-sections based on site investigation.**

4. Sufficient accurate cross-sections on a scale not less detailed than 1:1,250 of the site of the excavation, tip or lagoon showing the existing ground surface and all relevant superficial materials and bedrock underlying the site and—

- (a) any variation in the thickness, level or character of the superficial deposits and bedrock materials based on the site investigation; and
- (b) the position of any surface, whether natural or man-made, that may affect the safety of the excavation, tip or lagoon.

**Plans based on site investigation.**

5. Plans showing the position of all boreholes, wells and trial pits used in the site investigation and the location and levels of all materials and surfaces that may affect the safety of the excavation, tip or lagoon.

**Assumptions made before analysis.**

6. A record of any assumptions relevant to the assessment of ground conditions relating to the safety of the excavation or tip made by the geotechnical specialist, including a record of any relevant information that was not available when undertaking the assessment.

**Findings of analysis.**

7. A record of the calculations carried out in order to determine the safety of the excavation or tip, including any variables or parameters used in those calculations and the reasons for using them and the findings of those calculations expressed as the factor of safety or the probability of failure or other recognised basis of assessing stability.

**Design coming out of analysis.**

8. An accurate plan on a scale not less detailed than 1:2,500 recording—

- (a) in relation to an excavation, the design of the excavation, including the height or proposed height of the slope, the position and width of any benches and representative contours of the excavation at vertical intervals of not more than 5 metres, and
- (b) in relation to a tip or lagoon, the design of the tip or lagoon, including the area of land covered or to be covered, the gradients of that land, the designed contours at vertical intervals of not more than 2 metres, the side slopes and boundaries of the tip or lagoon and the designed position and nature of construction of any wall or other structure retaining or confining the tip, or lagoon.

**Requirements during and after quarrying operations.**

9. A report of the nature and extent of inspection, supervision and safety measures necessary to ensure the safety of the excavation, tip or lagoon and a specification of necessary engineering works and safety measures. A record of the action to be taken regarding defects shall be specified in the report.

## SCHEDULE 4

Regulation 58.

## AIR RECEIVERS

PARTICULARS TO BE INCLUDED IN REPORT OF EXAMINATION  
OF AIR RECEIVER

1. Name of operator of quarry.
2. Name and address of quarry.
3. Description, distinguishing mark and type of the air receiver.
4. Date of construction (if ascertainable) together with a brief history of the air receiver.
5. Date of last hydraulic test (if any) and pressure applied.
6. Particulars of—
  - (a) inaccessible parts (if any) at the time of examination,
  - (b) the examination and test made,
  - (c) its condition, including particulars of any defect materially affecting the safe working pressure.
7. Particulars as to whether the fittings and appliances are properly maintained and in good condition.
8. Particulars of the safe working pressure calculated from dimensions, thickness and other data as ascertained during the examination, taking account of unusual or exceptionally severe working conditions.
9. Particulars of—
  - (a) repairs (if any) required,
  - (b) the period within which the repairs should be carried out, and
  - (c) any other requirements that the person making the examination considers necessary.
10. Where repairs affecting the safe working pressure are required under paragraph 9, particulars of the safe working pressure that shall apply to the air receiver—
  - (a) before the expiration of the period specified in paragraph 9(b),
  - (b) after the expiration of such period, if the required repairs have not been completed, and

(c) after the completion of the required repairs.

11. The date of the examination and the name of the competent person who carried it out.

GIVEN under my hand,  
14 February 2008

BILLY KELLEHER.

Minister of State at the Department of Enterprise, Trade  
and Employment.

## EXPLANATORY NOTE

*(This note is not part of the Instrument and does not purport to be a legal interpretation)*

These Regulations set out requirements with respect to safety, health and welfare in quarries, as defined in Regulation 3, and replace a range of provisions formerly applied in the Mines and Quarries Act, 1965 and in various Regulations made under that Act.

The Regulations also retranspose, in relation to quarries, the relevant provisions of Council Directive 92/104/EEC of 3 December 1992 on the minimum requirements for improving the safety and health protection of workers in surface and underground mineral extracting industries (OJ L404, 31.12.1992, p. 10).

The Regulations come into operation on 1 May 2008, other than Regulations 13(c), 16(b) and Schedule 1, which come into operation on 1 November 2009.

The Regulations apply to all quarries where persons work and set out duties on the owner, operator, manager and employees at a quarry with respect to persons at or in the area immediately surrounding a quarry.

The Regulations—

(a) in Part 1, which relates to preliminary and general provisions, provide for the commencement of the Regulations, set out various definitions, set out conditions relating to the making of written instructions, rules, operating procedures and schemes, provide for the application of the Regulations and provide that the Safety, Health and Welfare at Work (Extractive Industries) Regulations 1997 (S.I. No. 467 of 1997) do not apply to a quarry as defined in Regulation 3 of these Regulations (Regulations 1 to 5 and Schedule 1),

(b) in Part 2, which relates to safety and health management—

(i) set out requirements relating to the appointment of quarry operators, notifications to the Health and Safety Authority and set out general duties on the operator to take the measures necessary to ensure, so far as is reasonably practicable, that the quarry can be worked without risks to safety, health and welfare (Regulations 6, 7, 8 and 9),

(ii) apply duties on the operator with respect to establishing a management structure and preparing a safety statement (Regulations 10 and 11),

(iii) set out the co-ordination role of a common operator appointed under Regulation 6, require the operator to ensure that workers are competent (including Quarries Skills Certification) and that instructions, rules and operating procedures designed to

secure safety, health and welfare are in place (Regulations 12, 13 (and Schedule 1) and 14),

(iv) set out requirements regarding permits to work, duties of persons at work, consultation with safety representatives and employees and record keeping (Regulations 15, 16, 17 and 18),

(c) in Part 3, which relates to general safety provisions, require the operator to—

(i) prepare a written scheme for the systematic inspection maintenance and, where appropriate, testing, of the quarry, buildings and plant and equipment (Regulation 19),

(ii) take specified measures with regard to safety equipment, benches and haul roads, safeguarding edges of excavations and lagoons, vehicles and traffic rules, danger areas, traffic routes, outdoor workstations, protection from falling objects and provision of safety helmets and prevention of drowning (Regulations 20, 21, 22, 23 (and Schedule 2), 24, 25, 26, 27 and 28),

(iii) ensure that there are adequate escape and rescue facilities at a quarry (Regulation 29),

(iv) ensure that regular safety drills are held (Regulation 30),

(v) control the risk of fires or explosions and take specified safety measures regarding danger areas and explosive or harmful atmospheres and ensure that adequate emergency lighting is provided (Regulations 31, 32 and 33),

(vi) apply precautions towards the prevention of unauthorised entry to a quarry including, where appropriate, the provision of barriers (Regulation 34),

(d) in Part 4, which relates to safety provisions for ancillary activities and installations, as regards places of work as defined in Regulation 35, intended to house workstations at a quarry, set out requirements relating to stability and solidity, floors, walls and ceilings of rooms, room dimensions, air space in rooms and freedom of movement at workstations, windows and skylights, doors and gates, ventilation of enclosed places of work and temperature in rooms (Regulations 36, 37, 38, 39, 40, 41 and 42),

(e) in Part 5, which applies to the storage, transport and use of explosives—

(i) require the operator to appoint a competent explosives supervisor and competent shotfirers and storekeepers (Regulation 44),

(ii) require the operator to ensure the safe storage, transport, use and disposal of explosives (Regulation 45),

(iii) require the operator to ensure that suitable shotfiring rules are drawn up and followed (Regulation 46),

(iv) require the operator to ensure that an adequate written blast specification is prepared for each shotfiring operation at a quarry and to ensure that shotfiring operations and trainee shotfirers are closely supervised and that records of shotfiring operations at a quarry are made and kept available for inspection (Regulations 47 and 48),

(v) apply duties on the explosives supervisor and the shotfirer (Regulation 49),

(vi) require the operator to take specified steps in relation to misfires (Regulation 50),

(vii) prohibit persons at a quarry from doing specified activities in relation to explosives (Regulation 51),

(f) in Part 6, which relates to excavations, including quarry faces, tips and lagoons, require the operator to—

(i) ensure that excavations, tips and lagoons are designed, constructed, operated and maintained so as to ensure safety and health and that safe operating procedures are in place in respect of excavations, tips and lagoons (Regulations 52 and 53),

(ii) ensure that all proposed or existing excavations, tips or lagoons are appraised by a competent person and, where required, subjected to a geotechnical assessment; that specified records are made and that remedial work is undertaken and that excavations, tips and lagoons are subject to further geotechnical assessments at specified intervals and in specified circumstances (Regulations 54 and 55 and Schedule 3),

(g) in Part 7, set out requirements relating to safety precautions, safe working pressures and the maintenance and examination of air receivers (Regulations 56, 57 and 58 and Schedule 4),

(h) in Part 8, which relates to general health hazards—

(i) require the operator to ensure that appropriate preventive measures are taken to prevent the exposure of persons at work to harmful chemical, physical or biological hazards at a quarry and that persons working outdoors at a quarry are protected against adverse atmospheric conditions (Regulations 59 and 60),

(ii) require the operator to ensure that waste in respect of the quarry is not destroyed, or otherwise disposed of in a manner liable to be injurious to safety and health and that appropriate measures are in place at a quarry to prevent danger to health from the exhaust gases from stationary internal combustion engines (Regulations 61 and 62),

(iii) where an employer at a quarry makes health surveillance available to persons at work in accordance with section 22 of the Safety, Health and Welfare at Work Act 2005, requires the employer to ensure that such health surveillance is made available before those persons are assigned to particular work activities in the quarry (Regulation 63).

(i) in Part 9, concerning welfare matters, apply duties on the operator with respect to shelters and accommodation for clothing and taking meals, changing rooms and lockers, washing facilities, sanitary conveniences, safe access to places where facilities are provided, pregnant women and nursing mothers, persons with disabilities and rest rooms (Regulations 64, 65, 66, 67, 68, 69, 70 and 71).

A separate Order — the Safety, Health and Welfare at Work Act 2005 (Quarries) (Repeals and Revocations) (Commencement) Order 2008 — from 1 May 2008 activates the repeal or revocation of certain provisions of the Mines and Quarries Act, 1965 and Statutory Instruments made under that Act, as provided for in sections 1(2) and 4(2) of the Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005), so as to avoid overlapping or duplication between those provisions and provisions of these Regulations.



BAILE ÁTHA CLIATH  
ARNA FHOILSIÚ AG OIFIG AN tSOLÁTHAIR  
Le ceannach díreach ón  
OIFIG DHÍOLTA FOILSEACHÁN RIALTAIS,  
TEACH SUN ALLIANCE, SRÁID THEACH LAIGHEAN, BAILE ÁTHA CLIATH 2,  
nó tríd an bpost ó  
FOILSEACHÁIN RIALTAIS, AN RANNÓG POST-TRÁCHTA,  
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