



STATUTORY INSTRUMENTS.

S.I. No. 283 of 2025

SAFETY, HEALTH AND WELFARE AT WORK (QUARRIES)
REGULATIONS 2025

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SAFETY, HEALTH AND WELFARE AT WORK (QUARRIES)
REGULATIONS 2025

I, Alan Dillon, Minister of State at the Department of Enterprise, Tourism 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) (as adapted by the Enterprise, Trade and Employment (Alteration of Name of Department and Title of Minister) Order 2025 (S.I. No. 172 of 2025) and the Enterprise, Tourism and Employment (Delegation of Ministerial Functions) Order 2025 (S.I. No. 240 of 2025)), and for the purpose of giving further effect to Council Directive 92/104/EEC of 3 December 1992¹, after consultation with the Health and Safety Authority, hereby make the following regulations:

PART 1

PRELIMINARY AND GENERAL

Citation, commencement and revocation

1. (1) These Regulations may be cited as the Safety, Health and Welfare at Work (Quarries) Regulations 2025.

(2) These Regulations shall come into operation on 1 January 2026.

(3) The following are revoked:

- (a) Safety, Health and Welfare at Work (Quarries) Regulations 2008 (S.I. No. 28 of 2008);
- (b) Safety, Health and Welfare at Work (Quarries) (Amendment) Regulations 2013 (S.I. No. 9 of 2013);
- (c) Safety, Health and Welfare at Work (Quarries) (Amendment) Regulations 2019 (S.I. No. 179 of 2019).

Interpretation

2. (1) In these Regulations —

“Act of 1875” means the Explosives Act 1875 (38 & 39 Vict.) c. 17;

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

“ANBI” means a substance assigned for the time being as ammonium nitrate blasting intermediate in accordance with UN Recommendation 3375 (being one of the UN Recommendations);

¹ OJ No. L 404, 31.12.1992, p.10

“appoint” means appoint a person in writing to perform the duties to which the appointment relates;

“blast specification” means a blast specification prepared under Regulation 48;

“blasting explosive” means a mixture intended for blasting consisting substantially of inorganic nitrates and carbonaceous combustibles in which none of the ingredients is an explosive which, when unconfined, is not cap sensitive;

“cap sensitive” means an explosive which gives a positive result when tested in accordance with the edition for the time being of the test known as the Series 5 type (a) test of the Manual of Test and Criteria, supporting the UN Recommendations;

“common operator”, in relation to a quarry, means a person who has been appointed under Regulation 6(6);

“detonator” means an initiator for explosives that contains a high explosive initiated 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;

“exploder” means a device designed for firing detonators;

“explosive” means an explosive within the meaning of the Act of 1875 and includes any explosive article or explosive substance which would —

- (a) if packaged for transport, be classified in accordance with the UN Recommendations as falling within Class 1, or
- (b) be classified in accordance with the UN Recommendations as —
 - (i) being unduly sensitive or so reactive as to be subject to spontaneous reaction and accordingly too dangerous to transport, and
 - (ii) falling within Class 1;

“explosive article” means an article containing one or more explosive substances;

“explosives store” means a store licensed by a local authority under section 15 of the Act of 1875;

“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 supervisor” means a person appointed under Regulation 45 to organise and supervise all work involving explosives;

“General Application Regulations” means the Safety, Health and Welfare at Work (General Application) Regulations 2007 (S.I. No. 299 of 2007);

“geotechnical assessment” has the meaning assigned to it by Regulation 57;

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

“haul road” means a road designed and built to carry heavily loaded trucks or equipment;

“inspection” means an inspection by a competent person which shall be visual, or more rigorous than visual, as the competent person shall have determined as being appropriate;

“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;

“on-site mixing” means the mixing at any place of non-explosive substances or preparations to form an explosive for immediate use at that place, and includes the processing at any place of ANBI with a sensitiser, or ammonium nitrate and fuel oil, to produce a blasting explosive for immediate use at that place;

“operator”, in relation to a quarry, means a person who has been appointed under Regulation 6;

“permanent cessation of quarrying operations” means that the extraction, storage and preparation for sale of minerals will not recommence at a later date and that all work relating and incidental to that cessation has been completed;

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

“public road” has the meaning assigned to it by the Roads Act 1993 (No. 14 of 1993);

“QQI” means Quality and Qualifications Ireland;

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

“quarry manager” means an individual appointed as quarry manager under Regulation 10;

“quarrying operations” means work activities associated with the extraction, storage and preparation for sale of minerals at the quarry and includes —

- (a) stripping of overburden,
- (b) any activities relating to excavations, tips and lagoons,
- (c) drilling and shotfiring operations,
- (d) crushing, screening and sizing,
- (e) loading and hauling, and

(f) any related activities;

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

“Quarries Skills Certification Scheme” means the scheme that provides for the issuance of a QQI award to a person who successfully completes training in any of the tasks mentioned at paragraph 1 of Schedule 1;

“registration card” means a quarries skills registration card issued by SOLAS to a person who has successfully been awarded a QQI award under the Quarries Skills Certification Scheme;

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

“shotfirer” means a person appointed as shotfirer under Regulation 45;

“shotfiring operations” at a quarry 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) on-site mixing of explosives;
- (d) priming a cartridge;
- (e) charging and stemming a shothole;
- (f) linking or connecting a series of shots;
- (g) withdrawal and sheltering of person;
- (h) inspecting and testing a shotfiring circuit;
- (i) firing a shot;
- (j) checking for misfires;
- (k) destroying surplus explosives;

“shotfiring rules” means rules prepared under Regulation 47;

“SOLAS” means An tSeirbhís Oideachais Leanúnaigh agus Scileanna;

“storekeeper” means a person appointed as storekeeper under Regulation 45;

“temporary cessation of quarrying operations” means the cessation of quarrying operations for a period expected to exceed six calendar months from the date of notification to the Authority, with an intention to recommence quarrying operations at some later date;

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

- (a) overburden dumps, backfills, spoilheaps, 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 as trainee shotfirer under Regulation 45;

“UN Recommendations” means the recommendations for the time being prepared by the United Nations Committee of Experts on the Transport of Dangerous Goods;

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

(1) Any instructions, rules, operating procedures or schemes, (other than documents and particulars specified in Schedule 4 for the purposes of a geotechnical assessment) required to be prepared under these Regulations, shall be so prepared for the purposes of informing a person working in a quarry what is required of them for the proper performance of the work and shall be —

- (a) in writing, and
- (b) made available to the person working in the quarry.

(2) With regard to the European Union (Recognition of Professional Qualifications) Regulations 2017 (S.I. No. 8 of 2017), SOLAS shall be responsible for the issue of valid registration cards, with photographic identification, under Schedule 1 and for the maintenance of a register of the cards issued.

(3) A word or expression that is used in these Regulations and is also used in Council Directive 92/104/EEC of 3 December 1992¹ has, unless the contrary intention appears, the same meaning in these Regulations as it has in the Directive.

Quarry

3. (1) In these Regulations, “quarry” means 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:

- (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 quarrying 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) any road within the quarry, other than a public road, used in connection with the extraction and preparation for sale of minerals from the quarry;
- (f) any conveyor, pipeline or means of conveyance of minerals or waste materials to a preparation area, tip, stockpile or lagoon;
- (g) a railway line or siding at the quarry;

but does not include a quarry referred to in paragraph (2).

(2) For the purposes of these Regulations, “quarry” does not include any of the following:

- (a) a mine within the meaning of the Safety, Health and Welfare at Work (Mines) Regulations 2018 (S.I. No. 133 of 2018);
- (b) the extraction of minerals through drilling by boreholes and prospecting with a view to such extraction;
- (c) the excavation of minerals within the identified boundary of a construction site where the mineral extracted is used exclusively within that site;
- (d) a public road;
- (e) an area of a quarry at which any manufacturing process of the 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.

(3) In this Regulation, “construction site” has the same meaning as it has in the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013).

Application

4. (1) These Regulations apply to all quarries other than a quarry referred to in paragraph (2).

(2) These Regulations do not apply to a quarry in relation to which —

- (a) notice of permanent or temporary 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) In relation to a quarry, these Regulations apply in addition to, and not in substitution for, the relevant statutory provisions.

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 the substitution of the following Regulation for Regulation 3A:

“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 2025 (S.I. No. 283 of 2025).”.

PART 2

SAFETY AND HEALTH MANAGEMENT

Appointment of operator

6. (1) Before the commencement of operations at a quarry, the quarry owner shall appoint, in the Form AFQ1 specified in Schedule 2, a person who is competent to perform the functions of an operator under these Regulations to be the operator of a quarry or part of a quarry, as the case may be.

(2) Where the quarry owner is an individual who is competent to perform the functions of an operator under these Regulations, he or she may appoint, in the Form AFQ1 specified in Schedule 2, himself or herself to be the operator of the quarry or part of a quarry, as the case may be.

(3) Where the quarry owner appoints a person to be the operator of the quarry under paragraph (1), both the operator and the quarry owner shall sign the Form AFQ1 specified in Schedule 2 and the quarry owner shall provide a copy of the Form to the operator.

(4) The original Form AFQ1 and a signed copy of it, referred to in paragraph (3), 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.

(5) 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.

(6) Where the quarry owner appoints different operators for different parts of the quarry, that quarry owner shall —

- (a) appoint, in the Form AFQ1 specified in Schedule 2, one of them to be the common operator for the purposes of co-ordinating the implementation of measures under Regulation 13, and
- (b) demarcate the different parts of the quarry in respect of which each operator is appointed.

(7) The original Form AFQ1 and a signed copy of it referred to in paragraph (6) shall be kept by the quarry owner and the common operator, respectively, for a period of 6 years from the termination of the common operator’s appointment as common operator of the quarry.

Operator to be appointed before commencement of quarrying operations

7. A person shall not be deployed to carry out quarrying operations at a quarry or part of a quarry unless an operator has been appointed under Regulation 6.

Notifications to Authority

8. (1) The operator shall furnish, or cause to be furnished, a written notice to the Authority not later than 14 working 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 or temporary cessation of quarrying operations.

(2) A notice under —

- (a) subparagraph (a) or (b) of paragraph (1) shall be in the Form AFQ1 specified in Schedule 2, and
- (b) subparagraph (c) of paragraph (1) shall be in the Form AFQ2 specified in Schedule 2.

(3) The quarry owner shall furnish, or cause to be furnished, a written notice in the Form AFQ1 specified in Schedule 2 to the Authority not later than 14 days after the appointment of a common operator.

General duties of operator

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

- (a) (i) the quarry is designed, constructed, equipped, commissioned, protected, operated and maintained, and
- (ii) any machinery, tool or other article used at work at the quarry is, 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)(ii) are 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 are of adequate strength and free from patent defect and suitable for the purpose for which they are intended, and
- (d) electrical equipment and plant at the quarry are of sufficient capacity for the purpose for which they are intended.

(2) The operator shall ensure that —

- (a) all work is planned and carried out 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 are 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) all activities are organised at the quarry 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, the quarry is left, so far as is reasonably practicable, in a safe condition.

(3) The operator shall appoint an adequate number of competent persons to perform the following functions:

- (a) enable the quarry to be operated and managed safely and in accordance with the safety statement;
- (b) supervise persons under their control engaged in work activities at the quarry;

- (c) supervise persons engaged in work activities involving serious risk to safety and health as identified in the safety statement;
- (d) visit occupied workstations at the quarry at least once during each shift, where this is specified as necessary under the safety statement.

Management structure

10. The operator shall establish a management structure and shall appoint —

- (a) (i) a person who is competent to perform the functions of a quarry manager under these Regulations to be the quarry manager, or
- (ii) himself or herself to be the quarry manager, where he or she is an individual who is competent to perform the functions of a quarry manager under these Regulations,
- (b) a person or persons who is or are competent to perform the functions of the quarry manager under these Regulations to be the temporary quarry manager or temporary quarry managers, as the case may be, in the absence of the quarry manager,
- (c) persons referred to in Regulation 45, and
- (d) an adequate number of competent persons to perform the functions referred to in Regulation 9(3).

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

(3) The operator shall ensure that each person who is part of the management structure at the quarry is provided with the part or parts of the safety statement that describes the person's authority and function.

General duties of quarry manager

11. The quarry manager (or temporary quarry manager, as the case may be) appointed under Regulation 10 shall —

- (a) manage the operation of the quarry at all times when persons are working in the quarry,
- (b) other than where the quarry manager is the operator, advise the operator as to the compliance with the requirements of the relevant statutory provisions,
- (c) exercise a general supervision of the compliance with those requirements and the promotion of the safe conduct of work generally, and
- (d) be available at all times during quarrying operations.

Safety statement

12. (1) In preparing or causing to be prepared a safety statement under section 20 of the Act of 2005, or in reviewing or amending the safety statement under that section, the operator shall include the —

- (a) management structure and appointments referred to in Regulation 10 setting out the duties and responsibilities of each person in the management structure,
- (b) instructions and operating procedures required under Regulation 15(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 the safety statement under section 20 of the Act of 2005,
- (d) system of permits to work, if required under Regulation 16,
- (e) inspection, maintenance and testing schemes prepared under Regulation 20,
- (f) vehicles and traffic rules prepared under Regulation 24,
- (g) instructions concerning the use of emergency equipment prepared under Regulation 30(c),
- (h) precautions taken to protect against, detect and combat the outbreak and spread of fire required under Regulation 32,
- (i) arrangements made and the equipment and measures necessary to prevent explosions required under Regulation 32,
- (j) shotfiring rules prepared under Regulation 47,
- (k) operating procedures for excavations, tips and lagoons required under Regulation 55,
- (l) conclusions of any appraisal, site investigation or geotechnical assessment of an excavation, tip or lagoon undertaken under Regulations 56 or 57, and
- (m) arrangements for health surveillance required under Regulation 62.

(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 accordance with Regulations 32 and 33,
- (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 accordance with Regulation 33, and
- (c) a diagram of the quarry indicating those areas to which these Regulations do not apply under Regulation 3(2).

- (3) The operator shall ensure that —
- (a) all measures that are required to be taken under the safety statement are taken,
 - (b) any plans included in the safety statement are followed, and
 - (c) each person in the management structure referred to in Regulation 10 shall perform the duties assigned to him or her in the safety statement so as to protect the safety, health and welfare of persons at work at the quarry.

Co-ordinated measures

13. (1) The operator, or the common operator, as the case may be, shall co-ordinate the implementation of all measures relating to the safety, health and welfare of persons at work at the quarry.

(2) Every employer of persons at work at a quarry and every person at work at a quarry shall co-operate with the operator, or the common operator, as the case may be, to the extent necessary to enable that operator to comply with the relevant statutory provisions.

Safety induction, competence and skills certification

14. 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 supervision of, that work for the purpose of training that person, and
- (c) has been issued with, and is in possession of, a current registration card or can show evidence of successful completion of training in respect of the Quarries Skills Certification Scheme if engaged in any of the tasks specified in Schedule 1.

Instructions, rules and operating procedures

15. The operator shall ensure that —

- (a) written instructions specifying rules to be observed and operating procedures are in place at the quarry with a view to securing the safety and health of persons at work and the safe use of work equipment,
- (b) copies of all instructions, rules and operating procedures that are 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) all reasonable measures are taken in order that each person at work at the quarry understands the instructions, rules and operating procedures made under these Regulations relating to the quarry that apply to that person.

Permits to work

16. The operator shall ensure that —

- (a) where necessary, based on an assessment of the risks, a system of permits to work is in place for the carrying out of —
 - (i) hazardous activities, and
 - (ii) activities that, 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 is issued by a competent person before the particular activities referred to in paragraph (a) commence, that specifies the conditions to be fulfilled and protective measures to be taken before, during and after the carrying out of the activities.

Duties of persons at work at a quarry

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

- (a) comply with all applicable instructions and rules and operating procedures prepared in accordance with these Regulations, and
- (b) show his or her registration card or evidence of successful completion of the Quarries Skills Certification Scheme referred to in Schedule 1, when requested to do so by an inspector of the Authority, the person's employer, the operator, or if applicable, the common operator.

Consultation

18. In complying with the requirements of section 26 of the Act of 2005, the operator, or operators as the case may be, and every employer at a quarry shall also consult at the quarry with their safety representatives and employees, as the case may be, in relation to the requirements of these Regulations, taking account of the need, whenever necessary, for co-operation and co-ordination among —

- (a) the operator or operators, as the case may be, 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

19. (1) The operator shall ensure that —

- (a) every report, notification or other record required to be prepared under a provision of these Regulations is kept in an appropriate form at the quarry or other suitable place, and
- (b) a copy of the written statement of duties of all persons appointed at the quarry under a provision of 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) Where, under these Regulations, a document referred to in paragraph (1)(a) is required to be prepared, 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 that record, report or other document as soon as is practicable afterwards.

(3) The operator shall ensure that when quarrying operations have permanently ceased at the quarry the report, notification, or other record referred to in paragraph (1), are kept for a period of 6 years, unless otherwise required by these Regulations in relation to a particular class of record —

- (a) at the registered office of the operator where the operator is a company (formed and registered under the Companies Act 2014 or an existing company within the meaning of that Act), or at its business or principal place of business where the operator is another body corporate or unincorporated body, or
- (b) at his or her place of business where the operator is an individual or (if there is no such address) the address at which the operator ordinarily resides.

(4) Any person having custody of records required under section 64 of the Act of 2005 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, or copies of, the records as the inspector may from time to time require in accordance with section 64 of the Act of 2005.

PART 3**GENERAL SAFETY PROVISIONS*****Inspection, maintenance and testing schemes***

20. (1) The operator, for the purposes of securing, so far as is reasonably practicable, the safety, health and welfare of persons at work in the quarry, shall ensure that —

- (a) suitable schemes are prepared and kept up to date 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) suitable records are made of inspections, maintenance and tests carried out under subparagraph (a) and that each such record lists any significant defects and the steps taken, or to be taken by a specified time, 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) 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 paragraph (1), the schemes referred to in that paragraph 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 conditions are observed, during an inspection under subparagraph (a), that constitute a significant hazard, or a potential significant hazard at an excavation, tip or lagoon, the requirements of Regulation 56 are complied with.

(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 of each inspection carried out under paragraph (2), and, where necessary, the appropriate remedial measures taken under paragraph (3), is made.

Safety equipment

21. 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

22. 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 other appropriate means to control such risks.

Safeguarding edges of excavations and lagoons

23. The operator shall ensure that at the quarry —
- (a) the overburden at or near the top of a face or a side of the quarry is cleared back to a sufficient distance and depth so as not to endanger any persons at work,
 - (b) material is not placed or stacked near or adjacent to the edge of any excavation or lagoon, where it is likely to endanger persons at work, and
 - (c) no load, vehicle, plant or equipment is placed or moved near or adjacent to 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 persons at work, and
 - (d) where necessary appropriate barriers are provided near or adjacent to the edge of any excavation or lagoon.

Vehicle and traffic rules

24. (1) The operator shall ensure, in so far as is reasonably practicable, that suitable vehicle and traffic rules are prepared and, where necessary, reviewed and updated for the purpose of preventing 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, are —

- (a) of good design and construction taking into account as far as possible ergonomic principles,
- (b) maintained in good working order,
- (c) properly used,
- (d) not operated otherwise than by —
 - (i) a competent person who has attained the age of 18 years, or

- (ii) a person aged 16 or 17 years under the supervision of a competent person for the purpose of his or her training, and
- (e) provided, in the case of the earth-moving machinery and materials-handling machinery specified in Schedule 3, with appropriate auxiliary devices that improve with visual aids the all-round visibility of the driver.

Danger areas

25. (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 who are not authorised to enter, and
- (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 in that area, due to the nature of the work being carried out in that area (including a risk of a person falling a distance likely to cause personal injury) or for any other reason.

Traffic routes

26. 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, 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

27. The operator shall ensure that —

- (a) outdoor workstations, traffic routes and other areas or installations 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 the persons at work, 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) are prevented from slipping or falling.

Protection from falling objects and provision of safety helmets

28. (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, unless there is no foreseeable risk of injury to a person's head, that every person at work at the quarry is provided with —

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

that complies with the requirements under Regulation 62 of the General Application Regulations.

(3) The operator shall ensure that 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.

(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 in such a manner so as to avoid injury to persons.

Prevention of drowning

29. (1) The operator shall ensure that secure fencing or suitable barriers are provided near an edge of the land, structure or platform, as appropriate, to prevent such a fall where there is a risk of such fall from —

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

(2) To the extent necessary for the access of persons or movement of materials, paragraph (1) shall not apply if appropriate precautions are taken, so far as is reasonably practicable, to ensure the safety and health of persons at the place of 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 which are worn at all times by persons while exposed to that risk at the quarry.

(4) The operator shall ensure that personal flotation devices provided under paragraph (3) 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 the Form AFQ3 specified in Schedule 2,
- (b) sign and date the report, and
- (c) give a copy of the report to the operator.

Escape and rescue facilities

30. Without prejudice to section 11 of the Act of 2005, 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 initiated as soon as is reasonably practicable,
- (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 the 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 General Application Regulations applying to safety and health signs at work.

Safety drills

31. 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 assessing 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

32. (1) This Regulation applies without prejudice to section 11 of the Act of 2005 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

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

- (a) adequate 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 competent person shall record the levels of concentration of such gases in the atmosphere at such intervals as the competent person considers to be necessary or 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,
 - (ii) where prevention under clause (i) is not practicable, 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 equipment referred to at subparagraph (a) 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

34. The operator shall ensure that —

- (a) the quarry is provided throughout with lighting capable of supplying illumination sufficient to ensure the safety and health of persons at the place of work,
- (b) workstations provided, as far as possible —
 - (i) receive sufficient natural light, and
 - (ii) having regard to 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 passage-ways 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 or, where that is not possible, persons at work in that place are provided with an appropriate personal lamp.

Prevention of unauthorised entry

35. 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

Meaning of “place of work” (Part 4)

36. In this Part, “place of work” means premises at the quarry —

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

Stability and solidity

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

- (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

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

- (a) floors are provided that —
 - (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 can be cleaned, and are cleaned, and 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

39. 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 unoccupied space at the workstation allow persons at work sufficient freedom of movement and enable them to perform their work safely.

Windows and skylights

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

- (a) windows and skylights —
 - (i) are designed so that they can be adjusted or secured in a safe manner, and
 - (ii) are not positioned so as to constitute a hazard to persons at work when open,
- (b) windows and skylights can be cleaned without risk, and
- (c) access to roofs made of fragile material shall not be permitted unless equipment is provided to ensure that work can be carried out in a safe manner.

Doors and gates

41. 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) transparent or translucent surfaces in doors and gates that are not made of safety material and in respect of which there is a danger that persons at work may be injured in the event of a door or gate shattering, 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 are provided that —
 - (i) function in such a way that there is no risk of accident to persons at work,
 - (ii) are fitted with easily identifiable and accessible emergency shutdown devices, and
 - (iii) unless they open automatically in the event of a power failure, can also be opened manually,

and

- (j) where chains or similar devices are used to prevent access to any place, signs are provided that are clearly visible and appropriately identify the chains or similar devices and indicate any prohibition or warning relating to the prevention of access.

Ventilation

42. 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

43. 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

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

Appointment of explosives supervisors, shotfirers, drillers and storekeepers

45. (1) The operator —

- (a) shall appoint one or more than one competent person as explosives supervisor at the quarry and obtain confirmation of acceptance of such appointment in writing,
- (b) shall ensure that, at any given time, where more than one competent person is appointed as explosives supervisor, there is only one person acting as the explosives supervisor at the quarry,
- (c) shall appoint one or more than one competent person as shotfirer and may appoint one or more than one competent person as trainee shotfirer at the quarry,
- (d) shall appoint, where necessary, one or more than one competent person as storekeeper to ensure the safe storage of explosives at the quarry,
- (e) shall appoint a competent person to carry out drilling of shotholes, and
- (f) shall ensure that a record of the appointment at the quarry of a competent person under subparagraphs (a), (c), (d) or (e) respectively is kept at the quarry or some other suitable place for the period of his or her appointment and for 6 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 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 and ANBI

46. The operator shall ensure that —

- (a) so far as is reasonably practicable, all explosives and ANBI are stored, transported, used and disposed of safely and securely,
- (b) operations involving the on-site mixing, storage, transport, use or disposal of explosives and ANBI are carried out by or under the close personal supervision of the explosives supervisor appointed under Regulation 45(1)(a),
- (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 ANBI, and

- (f) explosives and ANBI are kept at all times in a locked explosives store or under the close personal supervision of the explosives supervisor appointed under Regulation 45(1)(a).

Shotfiring rules

47. (1) In respect of a quarry where explosives are in use, the operator shall ensure that rules (in this Regulation referred to as the “shotfiring rules”) are prepared and available at the commencement of quarrying operations.

(2) The shotfiring rules shall provide for the following:

- (a) procedures for all shotfiring operations;
- (b) the appointment of drillers, explosives supervisors, shotfirers, trainee shotfirers and storekeepers;
- (c) the authorisation of other persons who will be involved with the on-site mixing, storage, transport, use or disposal of explosives and ANBI;
- (d) procedures for dealing with and recording of misfires;
- (e) procedures for the disposal of surplus explosives, ANBI, detonators, accessories and packaging.

Blast specification

48. The operator shall ensure that —

- (a) an adequate written blast specification is prepared by the explosives supervisor —
 - (i) that includes the identification of the danger zone for each shotfiring operation at the quarry, based on an assessment of the risks, and
 - (ii) so that where shotfiring operations identified by the explosives supervisor as being necessary occur, persons will not, in so far as is reasonably practicable, be placed at undue risk,
- (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, and
- (c) the blast specification is adhered to with regard to the azimuth, inclination, depth, and spacing of any shotholes drilled.

Shotfiring operations

49. The operator shall ensure that —

- (a) in 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 are kept of all shotfiring operations carried out at the quarry.

Duties of explosives supervisor and shotfirer

50. (1) The explosives supervisor at the quarry shall —
- (a) advise the operator as to the observance of the provisions of these Regulations in relation to the on-site mixing, storage, transport, use and disposal of explosives and ANBI at the quarry,
 - (b) organise and supervise all work involving the on-site mixing, storage, transport, use and disposal of explosives and ANBI 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 any variations to the blast specification have been brought to the attention of and agreed with the explosives supervisor,

- (b) ensure that no person is within, or may enter within, the danger zone specified in the blast specification when the shot is being fired,
 - (c) check the shotfiring system or circuit to ensure that it has been connected correctly,
 - (d) 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,
 - (e) where appropriate, ensure that the electrical integrity of the shotfiring system or circuit is such as to make a misfire unlikely, and
 - (f) 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

51. In the event of a misfire, the operator, in consultation with the quarry manager (where that quarry manager is not the same person as the operator) 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 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.

Records of Explosives and ANBI

52. (1) The operator shall ensure that procedures are in place for the recording of and accounting for —

- (a) all explosives used or disposed of at the quarry in accordance with the provisions of the European Communities (System for the Identification and Traceability of Explosives for Civil Uses) Regulations 2009 (S.I. 133 of 2009), and
 - (b) all ANBI used or disposed of at the quarry.
- (2) The operator shall comply with Regulation 19 and any requirements of An Garda Síochána regarding the procedures referred to in paragraph (1).
- (3) The operator shall ensure that when requested by a Government inspector or a member of An Garda Síochána the records referred to in paragraph (1) are made available.
- (4) In this Regulation, “Government inspector” means a person appointed under section 53 of the Act of 1875 as a Government inspector.

Prohibited activities

53. The operator shall ensure that —

- (a) only the following persons shall handle explosives, ANBI or detonators at a quarry:
 - (i) a person engaged in the transport of explosives, ANBI or detonators to or from a quarry;
 - (ii) an explosives supervisor;
 - (iii) a shotfirer or trainee shotfirer;
 - (iv) a storekeeper;
 - (v) any other person authorised by the operator to do so,
- (b) persons are prevented from bringing any substance or article (other than explosives) likely to cause an unintended explosion or fire within 100 metres of any explosives or take any naked flame within 100 metres of any explosives at a quarry,
- (c) persons are prevented from forcibly removing any detonator lead or other system for initiating shots from a shothole at a quarry after the shothole has been charged and primed,
- (d) a shot at a quarry is only fired where there is sufficient visibility for the work preparatory to shotfiring, the shotfiring operation and any site inspection after the shot is fired, to be carried out safely,
- (e) a shothole in which a shot has previously been fired is not charged or fired unless the person charging or firing the shothole is dealing with a misfire under Regulation 51,
- (f) a shot at a quarry is only fired —
 - (i) by an explosives supervisor, shotfirer or trainee shotfirer, or
 - (ii) by means of a suitable exploder that is kept at a secure place at the quarry, or by other suitable means provided by the operator, and

- (g) procedures are in place to prevent a person, other than an explosives supervisor, a shotfirer or trainee shotfirer, from disposing of surplus explosives, ANBI, detonators, accessories or packaging remaining following shotfiring operations.

PART 6

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

General duty to ensure safety of excavations, tips and lagoons

54. The operator shall ensure that —

- (a) excavations (including quarry faces), tips and lagoons are designed, operated and maintained, and
- (b) tips and lagoons are constructed,

so that, so far as is reasonably practicable, 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

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

- (a) the manner in which such operation is to be carried out,
- (b) the nature and extent of supervision of such operation, and
- (c) the protective measures to be taken during such operation 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

56. (1) Subject to paragraphs (3) and (4), the operator shall ensure that, before quarrying operations commence or re-commence in a particular area in the quarry, an appraisal of all proposed and existing excavations, tips, and 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 57.

(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 57 is required.

(5) Where the conclusion reached by the geotechnical specialist, following a site investigation made under paragraph (4), 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 57.

(6) The operator shall ensure that —

- (a) any significant findings, and
- (b) any conclusions reached and the reasons for those conclusions,

that are made under an appraisal or a site investigation under this Regulation are recorded by the competent person or the geotechnical specialist, as the case may be and acted upon as necessary.

Geotechnical assessments

57. (1) In this Regulation, a “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 of any of the documents and particulars specified in Schedule 4 or, as appropriate, consideration by the geotechnical specialist of those documents and particulars,
- (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 this Regulation, in particular any conclusions under paragraph (1)(b), and the reasons for those conclusions, are recorded by the geotechnical specialist carrying out the assessment,
 - (b) the geotechnical specialist signs and dates any record under subparagraph (a) and records his or her professional qualifications thereon,
 - (c) any available information that may be relevant for the purposes of a geotechnical assessment is made available to the geotechnical specialist undertaking that assessment,
 - (d) sufficient records of the nature, quantity and location of all substances accumulated or deposited at an excavation, tip or lagoon are kept to enable an accurate assessment of the stability of that excavation, tip or lagoon to be made,
 - (e) any remedial works identified during the geotechnical assessment in accordance with paragraph (1)(b)(ii) are completed by the date specified in the assessment or before quarrying operations are commenced or recommenced,
 - (f) where the conclusion reached by a geotechnical specialist in accordance with paragraph (1)(b) is that there is no significant hazard, the frequency with which an appraisal under Regulation 56 is to be carried out in the future in order to ensure the continued safety and stability of the excavation, tip or lagoon is specified by the geotechnical specialist and recorded and acted upon as necessary, and
 - (g) copies of all geotechnical assessments are kept at the quarry for inspection and are retained by the operator for at least 6 years from the date they were made.

PART 7

GENERAL HEALTH HAZARDS

Health hazards

58. (1) The operator shall ensure that, 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, 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

59. 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

60. The operator shall ensure that waste from the quarry is not destroyed or otherwise disposed of in a manner liable to be injurious to the safety and health of persons.

Stationary internal combustion engines and exhaust gases

61. The operator shall ensure that —

- (a) stationary internal combustion engines are not 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 enclosed or confined place referred to in paragraph (a) is adequately ventilated so as to prevent danger to health from exhaust gases referred to in that paragraph.

Health surveillance

62. An employer at a quarry who makes health surveillance available to his or her employees in accordance with section 22 of the Act of 2005 shall ensure that such health surveillance is made available before those employees are assigned to duties related to a particular work activity at the quarry.

PART 8

WELFARE

Shelters and accommodation for clothing and taking meals

63. (1) The operator shall ensure that the following are 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, which contains, where practicable, adequate and suitable means of enabling such persons to warm themselves and to dry wet clothing;
- (b) adequate and suitable enclosed 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 adequate facilities for drying such clothing if it becomes wet;
- (c) adequate and suitable accommodation for the taking of meals affording protection from the weather, which includes sufficient tables with impermeable surfaces and seats with backs;
- (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;
- (e) an adequate supply of potable drinking water at one or more than one convenient place.

(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) In determining whether accommodation provided under paragraph (1)(c) is adequate, account shall be taken of the number of persons who are likely to use such accommodation at any one time.

(4) All accommodation provided by the operator in accordance with this Regulation shall —

- (a) be properly ventilated, adequately lighted, kept in a clean, hygienic and orderly condition, and
- (b) not be used for the deposit or storage of materials or plant, other than as may be required for the purposes of the accommodation.

Changing rooms and lockers

64. (1) An operator shall ensure —

- (a) where persons at work are required to wear special work clothes and where, for reasons of health or propriety, they cannot be expected to change in another area, that appropriate changing rooms are provided which are —
 - (i) easily accessible,
 - (ii) of sufficient capacity, and
 - (iii) provided with seating,
- (b) that separate changing rooms are provided for men and women, or procedures are in place to ensure separate use of changing rooms by men and women, and

- (c) in changing rooms, that adequate facilities for drying wet or damp work clothes are provided.

(2) 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 the work clothes to be kept in a place separate from personal clothing and effects.

(3) Where changing rooms are not required under paragraph (1), the operator shall provide or cause every person at work to be provided with a place to store his or her own clothes and personal effects.

Washing facilities

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

- (a) troughs or washbasins which have a smooth impervious internal surface,
- (b) 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 are provided that are adequately lighted, properly ventilated and kept in a clean and orderly condition, and conveniently accessible from the accommodation for taking meals,
- (b) separate washbasins are provided for men and women, or procedures are in place to ensure separate use of washing facilities by men and women,
- (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) separate shower rooms are provided for men and women, or procedures are in place to ensure separate use of shower rooms by men and women,
- (e) shower rooms provided 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 or warm 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

66. An employer shall provide (including maintaining and keeping in a clean state) —

- (a) adequate and suitable sanitary and washing facilities for the use of employees,
- (b) an adequate number of lavatories and washbasins, with hot and cold running water in the vicinity of workstations, rest rooms, changing rooms and rooms housing showers, and
- (c) separate use of lavatories or washbasins for men and women, when so required for reasons of propriety.

Safe access to places where facilities are provided

67. The operator shall ensure that —

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

Pregnant women and nursing mothers

68. The operator shall provide that pregnant, postnatal and breastfeeding employees are able to lie down to rest in appropriate conditions.

Persons with disabilities

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

Rest rooms

70. The operator shall ensure that —

- (a) where necessary, having regard to the number of persons at work who may require to rest and the type of activity carried out, one or more than one rest room is provided, of sufficient dimensions and equipped with an adequate number of tables and with seats with backs, and
- (b) where a rest room is not provided and working hours are regularly and frequently interrupted, one or more than one other room is provided in which persons at work can stay during such interruptions, where this is required for their safety or health.

SCHEDULE 1

Regulations 2(3), 14(c) and 17(b)

QUARRIES SKILLS CERTIFICATION SCHEME

1. (1) The requirement for the issue of a QQI award under the Quarries Skills Certification Scheme (in this Schedule referred to 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 clause (j);
- (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 specified 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 under the supervision of a competent person, and
- (b) the person concerned is in possession of an appropriate identification identifying the person as a trainee for the purpose of gaining experience and competence in the skill in the area in which the person is undergoing training.

2. SOLAS shall issue a registration card to a person who applies to it and has been awarded —

- (1) an award from QQI for the purpose of this Schedule in a task listed in paragraph 1(1),
- (2) an award from another body in the State which is recognised by SOLAS

as equivalent to the award referred to in subparagraph (1),

(3) an award approved by a body in another Member State and recognised by SOLAS under the European Union (Recognition of Professional Qualifications) Regulations 2017 as equivalent to the award referred to in subparagraph (1), or

(4) an award approved by a body in a state other than a Member State and recognised by SOLAS as equivalent to the award referred to in subparagraph (1).

SCHEDULE 2

Regulations 6, 8 and 29

APPROVED FORMS AND NOTIFICATIONS

Approved Form AFQ1*Regulations 6 and 8*

APPOINTMENT OF OPERATORS AND NOTIFICATION TO HSA		
I hereby give notice of: (Tick as appropriate)	• Appointment of Operator ☐ • Appointment of Common Operator ☐ • Commencement of Quarrying Operations ☐	
Name of Quarry Owner:		
Address of Quarry Owner making Appointment of Operator /Change Operator/ Common Operator:		
Name of Operator/Common Operator:		
Name of Quarry:		
Address of Quarry:		
Townland and place where the Quarry is situated.:		
OS Grid References and Eircode (if relevant):		
Telephone Number of Operator:		
E-Mail Address, Operator:		
Commencement Date of Quarrying Operations:		
Signature of Owner and Date:	Signature	Date
Signature of Operator and Date:	Signature	Date
Signature of Common Operator and Date:	Signature	Date

Notes:

- If more than one operator is appointed by the owner in a quarry, then a common operator must be appointed to co-ordinate and be responsible for Health and Safety in the Quarry.
- The Quarry Owner shall not later than 14 days after the appointment of an Operator/Common Operator and Commencement of Quarrying Operations under Regulation 6 and 8 give written notice of that appointment in this approved form, AFQ1, to the Authority.

Approved Form AFQ2*Regulation 8*

NOTIFICATION OF PERMANENT OR TEMPORARY CESSATION	
I hereby give notice of (Tick as appropriate)	• Temporary Cessation of Quarrying Operations ☐ • Permanent Cessation of Quarrying Operations ☐
Name of Person or Company under which the business is carried on:	
Name of Operator:	
Signature of or on behalf of Operator:	
Name of Quarry:	
Address of Quarry:	
Townland and Place where the Quarry is situated:	
OS Grid References and Eircode (if relevant):	
Telephone Number of Operator:	
E-Mail Address of Operator:	
Date when temporary /permanent cessation of quarrying operations commences: (delete as appropriate)	

AFQ3

Regulation 29

[illegible]

I ○ E ○					
Note	I = Inspection	E= Thorough Examination	See Further Notes overleaf		

NOTES:**General:**

1. This form contains the report of the results of inspections and thorough examination of personal flotation devices.
2. Personal flotation devices must be inspected in accordance with the manufacturer's instructions.
3. Personal flotation devices must be thoroughly examined every 12 months.
4. The report must be signed by the person making the inspection or thorough examination.
5. The report shall be kept at the quarry whilst relevant work is being carried out.
6. If it is not possible to retain the report at the quarry it should be kept at the registered office of the operator, or where the operator is an individual, at his or her place of business.
7. Regulation 19(2) provides as follows:
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 that record, report or other document as soon as is practicable afterwards.
8. Regulation 29(4) provides as follows:
The operator shall ensure that personal flotation devices provided under paragraph (3) 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.

9. Regulation 29(5) provides as follows:

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 the Form AFQ3 specified in Schedule 2,
- (b) sign and date the report, and
- (c) give a copy of the report to the operator.

SCHEDULE 3

Regulation 24(2)(e)

VEHICLES REQUIRING AUXILIARY DEVICES AND VISUAL AIDS

Machine Type
Off-road dump trucks (trailer to rear of driver), payload greater than 7 tonnes
Dumpers (front tip) no cab
Dumpers (front tip) with cab
Wheel loaders (loading shovels), including skid steer loaders
All 180° excavators
All 360° excavators
Scrapers
All tracked type tractors (bulldozers)
Graders
Telescopic handlers

SCHEDULE 4

Regulation 57

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 land-slips, springs, artesian wells, watercourses, mine workings (whether in use or not) and other natural or man-made features, including tunnel pipes or culverts that may —
 - (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, tip or lagoon 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, tip or lagoon, 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 and specifying a record of the action to be taken regarding defects.

GIVEN under my hand,
11 September 2025

ALAN DILLON,
Minister of State at the Department of Enterprise, Tourism and
Employment

BAILE ÁTHA CLIATH
ARNA FHOILSIÚ AG OIFIG AN tSOLÁTHAIR
Le ceannach díreach ó
FOILSEACHÁIN RIALTAIS,
BÓTHAR BHAILE UÍ BHEOLÁIN,
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