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STATUTORY RULES OF NORTHERN IRELAND

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**2016 No. 427**

**The Mines Regulations (Northern Ireland) 2016**

**PART 3**

**CONTROL OF MAJOR HAZARDS**

Fire protection

**General duty**

**19.**—(1) The mine operator shall ensure that operations and work at the mine are planned and carried out—

- (a) so far as is reasonably practicable, to prevent the outbreak of fire or spontaneous combustion; and
- (b) with a view to preventing the spread of any fire.

(2) The mine operator shall ensure that the mine is equipped with—

- (a) suitable fire-fighting equipment; and
- (b) where necessary, fire detectors and alarm systems.

(3) The mine operator shall ensure that the fire-fighting equipment referred to in paragraph (2) (a) is maintained in good condition and is easily accessible.

**Fire protection plan**

**20.**—(1) The mine operator shall prepare and implement a fire protection plan detailing—

- (a) the likely sources of fire; and
- (b) the precautions to be taken to protect against, detect and combat the outbreak and spread of fire.

(2) In respect of every part of the mine other than any building on the surface of the mine, the fire protection plan shall—

- (a) include the designation of persons to implement the plan;
- (b) include the arrangements for any necessary contacts with external emergency services, particularly as regards rescue work and fire fighting; and
- (c) be adapted to the nature of the activities carried out at the mine and the size of the mine.

(3) The fire protection plan shall be kept at the mine or at some other suitable place.

Explosive atmospheres

**Application of regulations 22 and 23**

**21.** Regulations 22 and 23 apply below ground in mines in which places have been classified as hazardous under regulation 7(1) of DSEAR.

### **Explosive atmospheres**

- 22.**—(1) The mine operator shall ensure that—
- (a) there are in place in the zones classified under regulation 7(1) of DSEAR, specific arrangements to detect the presence, and monitor the concentration, of flammable gas; and
  - (b) measures are taken to reduce the level of flammable gas in any zone in which it has been detected to as low a level as is reasonably practicable.
- (2) The measures referred to in paragraph (1)(b) shall include (where necessary) drainage, removal and dilution.

### **Ignition risks**

- 23.**—(1) The mine operator shall ensure that when in any zone, or at any place within a zone, classified in accordance with regulation 7(1) of DSEAR—
- (a) the concentration of a flammable gas exceeds 25% by volume of the lower explosive limit of that gas in the general body of air, all activities that present a significant ignition risk are halted until the concentration is reduced so that it is below that level; and
  - (b) in the event that the concentration exceeds 40% by volume of the lower explosive limit of that gas in the general body of air, persons are withdrawn from that place or zone until the concentration has been reduced so that it is below that level.
- (2) The mine operator shall ensure that none of the following is taken below ground—
- (a) tobacco or other materials for smoking; or
  - (b) objects used to produce a flame for the purposes of smoking.

### **Application of regulations 25 and 26**

- 24.** Regulations 25 and 26 apply below ground in coal mines.

### **Burning and welding in coal mines**

- 25.** The mine operator shall ensure that—
- (a) no burning or welding equipment is used except in a shaft or inset; and
  - (b) before using any such equipment in a shaft or inset, an appropriate assessment is made of the risks of the proposed operation and appropriate steps are taken to mitigate the risks identified.

### **Risks of explosion in coal mines**

- 26.** The mine operator shall ensure that (where necessary) there are in place—
- (a) adequate arrangements to ensure that there is sufficient inert content in dust in roadways in the mine to ensure that risks of explosion are controlled; and
  - (b) suitable and effective barriers against the spread of explosion.

### **Explosives**

### **Application of regulations 28 to 31**

- 27.** Regulations 28 to 31 apply to mines at which explosives are transported, stored, handled or used.

### **General duties relating to explosives**

**28.**—(1) The mine operator shall ensure that, so far as is reasonably practicable, all explosives are transported, stored, handled and used safely and securely.

(2) The mine operator shall ensure that operations involving the transport, storage, handling or use of explosives are not carried out by anyone other than a person who is—

- (a) competent; and
- (b) authorised to do so in accordance with rules made under regulation 12.

(3) The mine operator shall ensure, so far as is reasonably practicable, that no person issues or takes control of explosives except in connection with the person's duties at the mine.

### **Duties relating to explosives in mines with explosive atmospheres**

**29.** In mines in which places have been classified as hazardous under regulation 7(1) of DSEAR, the mine operator shall ensure that—

- (a) the only explosives that are used are suitable for use in such places; and
- (b) before a shot is charged or fired, suitable tests for the presence of flammable gases are carried out.

### **Storage of explosives**

**30.**—(1) This regulation applies in relation to the temporary storage below ground at a mine of explosives for which a licence or certificate of registration for their storage is not required by virtue of regulation 10(2) and (3) of the 2006 Regulations.

(2) Subject to paragraph (3), the mine operator may designate as many places below ground at the mine as may be necessary for the temporary storage of explosives to which this regulation applies pending their use in shotfiring operations.

(3) Where any storage to which regulation 10(2) of the 2006 Regulations applies for which a licence or certificate of registration is not required is to take place at a site in relation to which a person holds a licence or certificate of registration, that storage may only take place there where to do so would not result in a breach of the conditions of that licence or certificate of registration.

(4) The mine operator shall not designate a place under paragraph (2) unless it is—

- (a) suitable; and
- (b) capable of being made secure.

(5) A place designated under paragraph (2) shall, at all times, be made secure or be supervised.

### **Rules**

**31.** Rules required by regulation 12 shall include—

- (a) requirements relating to shotfiring operations;
- (b) procedures for appointing shotfirers;
- (c) procedures for authorising other persons who will be involved with the transport, storage, handling and use of explosives;
- (d) requirements relating to misfires; and
- (e) in mines in which places have been classified as hazardous under regulation 7(1) of DSEAR, requirements relating to testing for the presence of flammable gases before any shot is fired.

## Ground movement

### Duty to take ground control measures

**32.**—(1) The mine operator shall ensure that such ground control measures are taken as are necessary to keep secure every place in the mine where persons work or pass.

(2) The duty in paragraph (1) to keep secure every place in the mine where persons work or pass is a duty to ensure security against any reasonably foreseeable risk to the health and safety of any person.

(3) Before any excavation is undertaken at a mine, the mine operator shall carry out an assessment of the risks from ground movement.

(4) The mine operator shall ensure that the assessment is—

(a) recorded; and

(b) reviewed and, where appropriate, revised, if there is reason to suspect that there has been a material change in the matters to which it relates.

(5) The mine operator shall ensure that sufficient ground control measures are taken as soon as possible to address effectively the risks identified by the assessment.

(6) Paragraph (1) does not require the mine operator to take ground control measures with respect to a danger area.

(7) In the case of a coal mine, the duty in paragraph (5) is presumed to be met if the mine operator has implemented the standards in Schedule 1, provided that the assessment indicates that those standards are sufficient to address effectively the risks identified by that assessment.

## Inrushes

### Precautions against inrushes

**33.** The mine operator shall ensure that inrush into any working in a mine of—

(a) gas from disused workings (whether mine workings or not); or

(b) water or material that flows, or is likely to flow when wet, from any source,

is prevented.

### Information about inrush hazards

**34.**—(1) The mine operator shall obtain, so far as is reasonably practicable, all the information which indicates, or tends to indicate, the presence or absence of a potentially hazardous area in the vicinity of any working being carried on, or proposed to be carried on, in the mine.

(2) The mine operator shall ensure that no working is undertaken in the mine in the vicinity of a body of surface water until—

(a) such steps are taken as may be necessary to ascertain the total thickness of the strata lying between the working and the surface water; and

(b) the mine operator is satisfied that the strata are sufficiently reliable to prevent an inrush of water from the surface.

(3) In this regulation—

(a) “body of surface water” means the sea, a lake or river, or any other body of surface water (whether accumulated naturally or not); and

(b) “potentially hazardous area” means—

(i) any disused workings (whether mine workings or not);

- (ii) any rock or stratum containing or likely to contain water (whether dispersed or in natural cavities);
- (iii) any peat, moss, sand, gravel, silt, or other material that flows or is likely to flow when wet; and
- (iv) any body of surface water.

### **Mine workings in potentially hazardous areas**

**35.**—(1) Before undertaking any working in a mine which would be within—

- (a) 45 metres (measured in any plane) of—
  - (i) the surface; or
  - (ii) any other potentially hazardous area within the meaning of any of sub-paragraphs (i) to (iii) of regulation 34(3)(b), except disused mine workings; or
- (b) 37 metres (measured in any plane) of any disused mine workings,

the mine operator shall assess the risk of the occurrence of an inrush to determine whether precautionary measures are necessary to prevent an inrush.

(2) Where the risk assessment indicates that precautionary measures are necessary, the mine operator shall ensure that the working is not carried on unless—

- (a) a suitable scheme of work is prepared which lays down the procedures designed to ensure that an inrush does not occur; and
- (b) the procedures required by the scheme are implemented.

(3) The mine operator shall ensure that a copy of the scheme is kept at the mine until the working is completed.

Shafts, outlets and winding

### **Shaft construction and modification**

**36.** The mine operator shall ensure that, so far as is reasonably practicable, the construction and modification of every shaft is planned, designed and carried out so as to be safe and without the risk of injury to any person.

### **Equipment in relevant shafts and outlets**

**37.**—(1) The mine operator shall provide suitable equipment in any relevant shaft or outlet that may be used for travel by persons.

- (2) The mine operator shall—
  - (a) ensure that it is safe for persons to use the equipment for travel; and
  - (b) provide written instructions for the safe use of the equipment for travel.

(3) The mine operator shall ensure that a written scheme is in place for the specification, selection and use of a rope in connection with winding apparatus, stipulating the maximum operating life of such a rope and any conditions which may reduce that life.

(4) The mine operator shall ensure that the stipulated maximum operating life is not exceeded unless a competent person has—

- (a) carried out a suitable risk assessment;
- (b) inspected the rope; and

- (c) confirmed that it is safe for the stipulated maximum operating life to be extended and by how much time.

(5) In this regulation, a relevant shaft or outlet is a shaft or outlet in which considerable physical effort is required by persons using it to travel, having regard to the distance to be travelled, the gradient, underfoot conditions and other relevant factors.

### **Safety features of winding apparatus**

**38.** The mine operator shall ensure that winding apparatus is suitable and has effective means—

- (a) to control the speed and distance of travel of the conveyance or counterweight;
- (b) to stop and hold the conveyance or counterweight in a safe manner, in the event of an overwind; and
- (c) to monitor the position and movement of every conveyance in a shaft.

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

**39.—**(1) The mine operator shall—

- (a) make arrangements for the systematic inspection, maintenance and (where appropriate) testing by competent persons of—
  - (i) shafts;
  - (ii) their linings and fixtures; and
  - (iii) winding apparatus;
- (b) prepare and keep up to date a suitable written scheme for the inspection, maintenance and testing required by sub-paragraph (a);
- (c) appoint sufficient competent persons to undertake the activities required by this regulation;
- (d) ensure that, where appropriate, suitable written reports are made of inspections and that each report records significant defects and the steps taken, or proposed to be taken, to remedy them; and
- (e) ensure that any proposed steps in a report are taken, provided they are appropriate.

(2) The mine operator shall ensure that, when winding apparatus is installed or modified, the apparatus is not used for the transport of persons unless—

- (a) it has been inspected by a competent person;
- (b) it has been found to be safe to use; and
- (c) a written report has been made confirming that it is safe to use.

### **Signalling and communication**

**40.** In any shaft or outlet in which there is winding apparatus or other equipment, the mine operator shall ensure that there is provided suitable and safe means to communicate and signal, where such means of communication and signalling is necessary to enable the winding apparatus or equipment to be used safely.

## **Transport systems**

### **Transport systems**

**41.—**(1) The mine operator shall ensure that all vehicles, conveyors and traffic routes are designed, installed, operated and maintained in such a way as to ensure, so far as is reasonably practicable, the health and safety of persons below ground at the mine.

(2) Without prejudice to the generality of the duty in paragraph (1), the mine operator shall ensure that—

- (a) vehicles or conveyors do not run in any traffic route unless there is sufficient clearance so that no part of a vehicle or conveyor or of a load on them comes into contact with—
  - (i) the roof or sides of the traffic route or anything supporting them; or
  - (ii) other equipment;
- (b) so far as is reasonably practicable, no pedestrian is present in any traffic route when vehicles are moving on it, unless—
  - (i) there is safe and sufficient clearance between pedestrians and vehicles throughout the traffic route; or
  - (ii) there are adequate and sufficient places of refuge provided;
- (c) suitable and sufficient devices are provided—
  - (i) to prevent the accidental disconnection or movement of vehicles or conveyors below ground; and
  - (ii) to arrest runaway vehicles below ground; and
- (d) traffic routes are clearly identified.

(3) The duty in paragraph (2)(c) extends to all parts of a vehicle that may become uncoupled and move.

### **Transport rules**

**42.** Rules required by regulation 12 shall include rules for the purpose of ensuring the safe operation of vehicles, conveyors and traffic routes.