



STATUTORY INSTRUMENTS

S.I. No. 804 of 2007



STORES FOR EXPLOSIVES ORDER 2007

(Prn. A7/2281)

STORES FOR EXPLOSIVES ORDER 2007

The Government, in exercise of the powers conferred on them by sections 16, 39, 40, 43, 46 and 83 of the Explosives Act 1875, as adapted, and on the recommendation of the Minister for Justice, Equality and Law Reform, hereby order as follows:

Citation

1. This Order may be cited as the Stores for Explosives Order 2007.

Commencement

2. This Order comes into operation on 11 December 2007.

Interpretation

3. (1) In this Order—

“Act” means the Explosives Act 1875;

“ADR” means the European Agreement concerning the international carriage of dangerous goods by road, done at Geneva on 30 September 1957, as amended by the Protocols done at New York on 21 August 1975 and at Geneva on 28 October 1993;

“ANBI” means ammonium nitrate blasting intermediate (that is to say, a non-sensitised mixture of, primarily, ammonium nitrate and other substances not in themselves explosive) which—

(a) is intended to produce a blasting explosive only after further processing before use, and

(b) is classified in accordance with the UN Recommendations as falling within Class 5.1;

“black powder” means an intimate mixture, with or without sulphur, of charcoal or other carbon with potassium nitrate or sodium nitrate, whether the mixture is in meal, granular, compressed or pelletised form, being an explosive substance numbered UN No. 0027 or 0028;

“brick-built” means having an outer structure which is wholly or mainly of brick, concrete, stone or other similar material;

“bridleway” means a path over which members of the public have a right of way on foot, on horseback or while leading a horse or cycling;

“competent person” means a person—

*Notice of the making of this Statutory Instrument was published in
“Iris Oifigiúil” of 14th December, 2007.*

(a) who, having regard to—

(i) the size of a store, and

(ii) the hazards associated with the storage of explosives in it,

or of either of those factors, has sufficient experience and knowledge to operate the store in accordance with the requirements of this Order, and

(b) who, if an individual, has had sufficient training so to operate it;

“controlled substance” has the meaning given to it in Article 5;

“conventional explosive” means a blasting explosive and accessories, including detonators and boosters, that are normally used in the mining, quarrying and construction industries;

“distance”, except in the definition of “reference zone”, means minimum distance;

“explosive” means an explosive within the meaning of section 2 of the Act and orders made or to be made under section 104 thereof and includes—

(a) a controlled substance, and

(b) any explosive article or explosive substance which would—

(i) if packaged for transport, be classified in accordance with the UN Recommendations as falling within Class 1, or

(ii) be so classified as being too dangerous to transport by reason of being unduly sensitive or so reactive as to be subject to spontaneous reaction,

but does not include an explosive substance produced as part of a manufacturing process which later reprocesses it to produce a substance which is not an explosive substance;

“explosive article” means an article containing one or more than one explosive substance;

“explosive substance” means a substance which—

(a) is capable by chemical reaction in itself of producing gases at a temperature, pressure and speed that could cause injury or damage to their surroundings, or

(b) is designed to produce an effect by heat, light, sound, gas or smoke or a combination of them as a result of a non-detonative, self-sustaining, exothermic chemical reaction,

but does not include a substance in a solely gaseous form or in the form of vapour;

“fire authority” has the meaning given to it by the Fire Services Act 1981;

“footpath” means a path (not being a footway) over which there is a public right of way for pedestrians only;

“footway” means that part of a road which is primarily for use by pedestrians;

“Guidance Document on Fire Safety” means the document entitled “Guidance Document on Fire Safety in Stores for Explosives”, a copy of which is available from the local authority concerned, or any amendment thereof;

“hazard type”, in relation to an explosive, means one of the categories of explosives mentioned in Article 4;

“inspector” means a person appointed as such under section 53 of the Act;

“licence” means a licence under section 15 of the Act in respect of a store, and cognate words are to be construed accordingly;

“lightly-used road” means a road used ordinarily by more than 20 and not more than 500 vehicles every 24 hours;

“major road” means a road used ordinarily by more than 10,000 vehicles every 24 hours;

“mass explosion”, in relation to a body of explosives, means an explosion in which the entire body of the explosives explodes as one;

“metal-built” means built wholly or mainly of steel or other metal;

“Minister” means the Minister for Justice, Equality and Law Reform;

“minor road” means a road (other than a major road) used ordinarily by more than 500 vehicles every 24 hours;

“mound” means a barrier for intercepting fragments and debris caused by an explosion in a building or store for the purpose of—

(a) protecting explosives in nearby buildings from initiation by the fragments, and

(b) reducing the risks to persons in nearby buildings from the fragments and debris,

and cognate words are to be construed accordingly;

“oxidising controlled substance” means—

- (a) a substance which, though not combustible, may cause or contribute to the combustion of other material, or
- (b) an article containing such a substance;

“place of public resort” means a place where more than 100 persons are present, or are likely to be present, at any one time on a weekly or more frequent basis;

“proper shipping name” is that portion of the entry most accurately describing the goods in Column 2 of Table A in Chapter 3.2 of Annex A to the ADR and shown in upper case characters;

“pyrotechnic article” means any article which—

- (a) contains a pyrotechnic substance or a mixture of such substances, and
- (b) is intended for both entertainment and other purposes;

“pyrotechnic substance” means a substance of a kind designed to produce an effect by heat, light, sound, gas or smoke or a combination of any of them as a result of a non-detonative, self-sustaining, exothermic chemical reaction;

“quantity of explosive” means—

- (a) in the case of a controlled substance, the mass of the substance,
- (b) in relation to a pyrotechnic article—
 - (i) an amount which is one-quarter of the gross mass of the article, or
 - (ii) where the manufacturer, importer or supplier specifies a different amount on the article, its packaging or a document accompanying it as its net explosive mass of explosive substance, that amount, and
- (c) in any other case, the net explosive mass of explosive substance;

“reference zone” means an area around a store having a radius from the centre point of the store specified in column 5 of the relevant table in Schedule 4;

“relevant table” is the table of separation distances which applies, by virtue of paragraph 1 of Schedule 4, in relation to the storage of specified quantities of explosives;

“road” means any thoroughfare on which the movement of vehicles is allowed;

“separation distance” means the minimum distance between a store and a building or other place in or at which people are, or are likely to be, present either all the time or from time to time;

“shooters powder” means—

- (a) black powder,
- (b) smokeless powder, or
- (c) any other substance or preparation based on potassium nitrate or nitrocellulose, whether in powder, pelletised or granular form, and used, or to be used, as a propellant;

“site” means an area, or adjoining areas under the control of the same person, in which a store is situated, and includes areas under such control that are separated only by a road, railway or inland waterway;

“small arms ammunition” means explosive articles numbered UN No. 0012, 0014 or 0055 and intended exclusively for use in small arms;

“smokeless powder” means an explosive substance numbered UN No. 0160 or 0161;

“store” means a building, an enclosed area, an excavation, or a metal structure, in which explosives are, or are to be, stored;

“UN Hazard Code” means the classification code for dangerous substances and articles shown in Column 3b of Table A in Chapter 3.2 of Annex A to the ADR and consisting of a hazard division number describing the main hazard associated with the substance or article concerned, together with a compatibility group letter indicating the other explosive substances or articles with which it can be stored or transported;

“UN Recommendations” means the recommendations contained in the manual published by the United Nations and entitled “Fifteenth Revised Edition of the Recommendations prepared by the United Nations Committee of Experts on the Transport of Dangerous Goods” (ISBN 92-1-139067-2) or a later revised edition of those Recommendations;

“UN No.” means the United Nations Serial Number, that is to say, one of the four-digit numbers devised by the United Nations as a means of identifying types of explosives in accordance with the UN Recommendations;

“vulnerable building” means a building of 4 storeys or more above ground where its masonry, glass or other cladding is suspended from the structural framework;

“waterway” means any navigable body of water and includes a river, channel or canal.

(2) In this Order—

- (a) references to a thoroughfare (however described) or a waterway or railway line do not include references to any part of it within a site—
 - (i) in which a store is situated, and
 - (ii) which is occupied by the person storing the explosives,

and

- (b) references to a building are references to a building in or at which people are, or are likely to be, present either at all times or from time to time.

Hazard types

4. (1) For the purposes of this Order, explosives are divided into the following hazard types:

- (a) hazard type 1 explosive, that is to say, an explosive which has a mass explosion hazard as a result of, or of any effect of, the conditions of its storage or processes of manufacture;
- (b) hazard type 2 explosive, that is to say, an explosive which has a serious projectile hazard but not a mass explosion hazard as a result of, or of any effect of, those conditions or processes;
- (c) hazard type 3 explosive, that is to say, an explosive which has a fire hazard and either a minor blast hazard or a minor projection hazard or both but not a mass explosion hazard, as a result of, or of any effect of, those conditions or processes;
- (d) hazard type 4 explosive, that is to say, an explosive which has a fire or slight explosion hazard or both, with only local effect, as a result of, or of any effect of, those conditions or processes;

“Controlled substance”

5. “Controlled substance” means—

- (a) an ANBI, or
- (b) a substance specified in the—
 - (i) Schedule to the Explosives (Ammonium Nitrate and Sodium Chlorate) Order 1972 (S.I. No. 191 of 1972),
 - (ii) Explosives (Nitro-benzene) Order 1972 (S.I. No. 233 of 1972), or
 - (iii) Explosives (Potassium Nitrate and Sodium Nitrate) Order 1986 (S.I. No. 273 of 1986).

Transitional arrangements for store licences

6. (1) Subject to paragraph (2), a store licence granted under section 15 of the Act and in force on the commencement of this Order is deemed to have been granted under that section.

(2) Where a licence referred to in paragraph (1) provides for a separation distance which is less than the relevant separation distance specified in the relevant table in Schedule 4, the person to whom the licence was granted may

maintain the lesser separation distance until the expiry of 6 months after such commencement or the expiry of the licence, whichever is the earlier.

Store licences

7. (1) An application for the grant or renewal of a store licence under section 15 of the Act shall be made to the local authority of the place in which the store is proposed to be or is situated.

(2) Such an application shall be in the form set out in Schedule 1 or a form to the like effect.

(3) On receipt of an application the local authority—

(a) may by notice in writing request such additional information from the applicant as it considers necessary for the purposes of this Order,

(b) may seek the advice of an inspector, and

(c) shall notify the Minister of receipt of the application within 7 days of its receipt.

(4) A local authority shall not grant or renew a store licence unless satisfied that an officer of the fire authority concerned and a member of the Garda Síochána have each inspected the store and confirmed, in so far as the officer and member may do so having regard to their respective official functions, that the requirements of this Order are being met in relation to the store.

(5) Subject to paragraph (4), a local authority may—

(a) grant or renew a store licence, subject to any conditions that it considers reasonable for the purpose of ensuring compliance with the Act and this Order, or

(b) refuse to do so.

(6) A store licence shall—

(a) remain in force for such period, not exceeding 5 years, as the local authority may determine, and

(b) without prejudice to any other conditions to which the licence may be subject, specify the site of the store, the places within it where explosives may be stored and the hazard type and maximum amount of explosives that may be stored or otherwise present at any one time in any place so specified.

(7) Application for renewal of a store licence shall be made at least 3 months before it expires.

(8) A store licence may be renewed for a period not exceeding 5 years.

(9) A copy of a store licence or renewed store licence shall be sent to the Minister within 7 days after it was granted or renewed.

Variation of store licence

8. A local authority may, with the prior approval of the Minister, vary a store licence or any of the conditions to which it is subject where—

- (a) the maximum amount of explosives that may be stored requires to be reduced, because the separation distance available has become less than that specified for such a store in the relevant table in Schedule 4,
- (b) such a variation is necessary to ensure safe storage of the explosives,
- (c) it is necessary in the interests of safety to increase the required separation distance, or
- (d) such a variation is necessary for any other reason to ensure compliance with the Act or this Order.

Revocation of store licence

9. (1) Subject to paragraph (2), a local authority may revoke a store licence where—

- (a) the licensee has not complied with the condition or conditions to which the licence is subject,
- (b) the licensee has not stored explosives in accordance with this Order,
- (c) the site is for any reason no longer suitable, or
- (d) the store is for any reason no longer suitable for the storage of explosives.

(2) The local authority shall notify the licensee that it proposes to revoke the licence and that the licensee may make representations to it in that regard within 28 days after the date of the notification.

(3) Where the local authority, having considered any representations made by the licensee under paragraph (2), decides to revoke the licence, it shall, within 21 days after receipt of the representations, notify the licensee in writing of its decision and the reasons for it.

(4) The local authority, when notifying a licensee under paragraph (2) or (3), shall send a copy of the notification to the Minister.

Construction of stores (general)

10. (1) The following provisions have effect in relation to a store.

(2) A store shall be well and substantially built of brick, stone, concrete, iron or steel or be excavated in solid rock not liable to ignition.

- (3) It shall be so made as to prevent ingress of moisture and protect the contents against adverse climatic effects.
- (4) It shall be so made and closed, or otherwise protected, as to prevent access by unauthorised persons and secure it from external danger.
- (5) Doors, openings, security systems, including locking, alarm and any surveillance or monitoring systems shall, subject to paragraph (7), be to a standard approved by the Commissioner of the Garda Síochána.
- (6) Mounding, where applicable, shall be to a standard approved by an inspector.
- (7) Electrical equipment and fittings, lighting, heating, lightning protection (where required), communications equipment and fork lift and battery operated vehicles, where applicable, shall be—
- (a) to the standard provided for in “HSE Guidance Note PM 82 — the selection, installation and maintenance of electrical equipment for use in and around buildings containing explosives”,
 - (b) to an Irish standard certified by the National Standards Authority of Ireland as equivalent to that standard, or
 - (c) to any other standard approved by an inspector.
- (8) Subject to paragraph (7), the licensee shall satisfy the fire authority concerned that the fire detection, fire alarm, fire safety, fire resistance and escape routes and, where applicable, the fire-fighting equipment are in accordance with the requirements of the Guidance Document on Fire Safety in that regard.
- (9) Internal walls, ceilings, floors, doors, shelves, furniture and fittings shall be plastered, lined, sheeted or sealed so as to be easily cleaned.
- (10) Metal surfaces shall be treated, coated or lined to prevent exposure of any iron or steel.
- (11) Lightning protection shall be fitted unless the store—
- (a) holds only hazard type 4 pyrotechnics,
 - (b) is licensed to hold less than 75 kilograms of explosives,
 - (c) contains only hazard type 4 small arms ammunition, or
 - (d) is made by excavation in ground not subject to lightning hazard.
- (12) The licensee shall display in a prominent position near the entrance to the store—
- (a) fire safety and dangerous goods hazard signs, as appropriate,

(b) signs containing the following information:

- (i) maximum quantity of the hazard type or hazard types of explosive authorised by the licence to be kept in the store,
- (ii) maximum number of employees permitted by the licensee to be present in the store,
- (iii) maximum number of other persons that may be so permitted at any one time without prejudicing the safe operation of the store,
- (iv) the general rules and special rules (if any) for explosives, and
- (v) where on the site any written procedural or other relevant instructions may be inspected,

and

(c) a copy of the current store licence.

(13) Construction and installation work shall be certified by persons competent for that purpose and the certificates retained by the licensee.

Stores for oxidising controlled substances: additional construction requirements

11. (1) Without prejudice to the generality of Article 10, the following additional requirements apply in relation to the construction of a store for oxidising controlled substances.

(2) Such a store shall be well ventilated, constructed from materials that will not burn, such as concrete, brick or steel, and situated away from sources of heat, fire or explosion.

(3) Any drains, channels or pits where, in the event of fire, molten ammonium nitrate, ANBI or other oxidising substance could become confined shall be protected so that such molten material cannot run into them.

(4) Floors shall be made of non-combustible material without hollows, cavities or large cracks where molten material could accumulate and shall be easy to sweep or clean with water.

(5) Wooden pallets that are contaminated with a controlled substance and presenting a fire risk shall be disposed of safely.

(6) Light fittings shall be robust and protected against dust.

(7) Light switches, fuses, etc., shall be placed outside the store.

(8) Any storage tanks shall be fitted with a pressure release device such as a re-closing spring-loaded type of such a device or a frangible disc or fusible element with a set-to-discharge/burst pressure not greater than 2.65 bar.

(9) Any fixed storage tanks shall be solidly supported.

(10) The ground on which fixed storage tanks are placed shall, where possible, slope in such a way as to ensure that, in the event of fire, any material from the tanks flows safely away.

(11) Any thermal insulation of a storage tank shall be inorganic and non-combustible.

(12) Portable storage tanks shall be sited on a concrete or other hard surface with free all-round access.

(13) (a) Oil or other fuel stocks shall be stored in tanks at a sufficient distance to prevent cross — contamination with oxidising substances, and each tank shall be surrounded by a bund equivalent to 110% of tank volume.

(b) In subparagraph (a), “bund” means an embankment or other construction designed to contain spillages from a tank.

(14) Stores for controlled substances shall have appropriate hazard signage indicating the predominant hazard to persons, including members of the emergency services, in the event of a fire or accident.

Operation of stores

12. The licensee of a store shall ensure that the store is at all times operated under the supervision of a competent person.

Separation distances

13. (1) Subject to the provisions of this Article, the licensee of a store shall ensure that the relevant separation distance specified in the relevant table in Schedule 4 is maintained between the store and a building or other place outside the site and referred to in that Schedule.

(2) Such a licensee shall ensure that half the relevant separation distance specified in the relevant table in Schedule 4 is maintained between the store and any building within the site which is used either for domestic or residential purposes or for work not involving explosives, except any building used for work which is normally unoccupied by any person and is not a store.

(3) If an explosive (other than fireworks) is not in its ADR transport packaging, it shall be treated for the purposes of separation distances as a hazard type 1 explosive, unless the possessor of the explosive is advised otherwise by an inspector.

(4) To ascertain the separation distance to be applied in the case of fireworks, the possessor of the fireworks shall consult an inspector, who shall determine the appropriate hazard type for that purpose.

(5) To ascertain the separation distance to be applied in the case of a store constructed by excavation, the licensee shall consult an inspector, who shall determine the appropriate separation distance.

(6) Where a store contains different hazard types of explosives, the explosives shall be treated as belonging to the hazard type which would require the greatest separation distance for the total quantity of the explosives, and the separation distance shall be determined in relation to that quantity.

(7) Subject to paragraph (8), separation distances do not apply in relation to—

- (a) a store holding a quantity not exceeding 25 kilograms of explosives of hazard type 4, or
- (b) a store holding a quantity not exceeding 2000 kilograms of small arms ammunition.

(8) Paragraph (7) applies to a store only where—

- (a) there is at least a one-hour fire resistance between any storage room and an adjoining room or passage,
- (b) adequate fire-fighting facilities and access for emergency services are provided, and
- (c) if the store is within or adjoins a building containing accommodation used for domestic or residential purposes—
 - (i) the accommodation is separate from the store,
 - (ii) access and exit routes, which are fire-separated from the store, are provided for the accommodation,
 - (iii) there is at least a one-hour fire resistance between the accommodation and the store, and
 - (iv) unauthorised access from the accommodation to the store is prevented.

(9) In this Article “fireworks” means explosives articles numbered UN No. 0033, 0034, 0035, 0036 or 0037.

Special provision in relation to storage of controlled substances not exceeding 50,000 kg.

14. (1) In this Article, “controlled substance” means a quantity of a controlled substance or substances not exceeding 50,000 kilograms.

(2) A controlled substance shall not be stored on the same site as a conventional explosive, unless separation distances are maintained in accordance with Table 10 of Schedule 4.

(3) Different controlled substances shall be stored separately from each other unless they are known to be compatible in storage.

(4) An oxidising controlled substance may be stored on a site not containing a conventional explosive if a fire resistant barrier to a standard specified in the Guidance Document on Fire Safety or a 10-metre fire-break separates the oxidising controlled substance from stocks of fuel or flammable materials and occupied buildings.

(5) Oxidising controlled substances shall be stored separately from fuels and incompatible substances such as acids, chlorates, zinc, copper, copper salts and aluminium powder.

Fire and explosion assessment and safety measures

15. (1) Any licensee or a person who intends to store explosives shall cause a written assessment of the site and of activities related to the storage or proposed storage to be prepared by a competent person for the purpose of—

- (a) identifying fire and explosion hazards on the site,
- (b) assessing the risks presented by them,
- (c) identifying persons who might be harmed by an explosion and how they might be so harmed, and
- (d) deciding what safety measures are needed to minimise those risks.

(2) A holder of a licence under section 15 of the Act and in force on the commencement of this Order shall, as soon as practicable, send to the local authority concerned a copy of the assessment referred to in paragraph (1).

(3) Any person who intends to store explosives shall send a copy of such an assessment to the local authority when applying for a licence.

(4) A licensee shall cause the assessment to be reviewed from time to time by a competent person, particularly where there has been a change in equipment, explosive substances, hazards or procedures.

(5) Any such person shall, having regard to the assessment, take appropriate measures to:

- (a) prevent fire or explosion,
- (b) put in place a safe system of work,
- (c) limit the extent of fire or explosion, including measures to prevent the spreading of fire and communication of explosions from one place to another, and
- (d) protect persons from the effects of fire and explosion.

(6) The safety measures required by paragraph (5) include those set out in Schedule 3.

(7) In addition to the requirements of the general rules for explosives stores under section 17 of the Act and of any special rules under section 19 thereof for the regulation of persons managing or employed in or about the store, any person who stores explosives shall provide appropriate and adequate written instructions to those persons in relation to safety procedures, including—

- (a) general safety precautions and procedures,
- (b) emergency procedures in the event of a fire or explosion,
- (c) security procedures, and
- (d) working procedures relating to the storage and handling of explosives.

(8) Instructions under paragraph (7)(d) shall be sufficiently detailed to enable the storage and handling of explosives to be carried out safely.

(9) A licensee shall provide any other persons employed on the site with adequate and documented training on safety measures that is appropriate to the tasks performed by them and the hazards that they are likely to encounter.

(10) This Article is without prejudice to sections 19 (hazard identification and risk assessment) and 20 (safety statement) of the Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005).

Revocations

16. The following Orders are revoked:

- (a) Stores for Explosives Order 1955 (S.I. No. 42 of 1955);
- (b) Stores for Explosives (Amendment) Order 2003 (S.I. No. 71 of 2003).

SCHEDULE 1

APPLICATION FOR GRANT OR RENEWAL OF EXPLOSIVES STORE
LICENCE

(Note: This form should be read in conjunction with the Explosives Act 1875 and Stores for Explosives Order 2007 (S.I. xxx of 2007), and Guidance Document on Fire Safety in Stores for Explosives. See footnotes on completing each section of form).

1. Applicant

Name <i>(if applicant is an individual)</i>	
Address	
Company Name	
Name of Company Secretary	
Registered Office	
Name and evidence of competence of person directly responsible for supervising operations within store	
Phone	
Fax	

2. Location of proposed store¹

County	
Parish	
Place	

¹Location: Scaled maps should accompany the application, one of scale 1:2500, showing the entire site and all occupied buildings, roads, factories, etc. within 1000m of the site and a block plan of scale 1:500 (approx), showing actual store (outlined in red) and remainder of the site under the control or ownership of the applicant, and a plan of the actual store of scale 1:50.

3. Checklist for construction of proposed store²

Type	Description	Yes/No
SM	Solid brick or block or reinforced concrete, mounded?	
SU	Solid brick or block or reinforced concrete, unmounded?	
MM	Metal, mounded?	
MU	Metal, without detonator annex, unmounded?	
MDU	Metal, with detonator annex, unmounded?	
UG	Underground?	
OS	Open stack?	
Lighting	Compliant with PM 82?	
Lightning conductor	Compliant with PM 82?	
Security	Compliant with Garda Síochána CPO requirements?	
Fire safety	Compliant with Guidance Document on Fire Safety in Stores for Explosives?	

4. Types of explosives proposed to be stored:³

Proper shipping name	UN number	UN hazard code	Hazard type

²Construction requirements are specified in the Order. PM 82 is an electrical specification for explosives buildings.

³Proper shipping names, UN number and hazard code can be obtained from the manufacturer or the Competent Authority Document, which classifies explosives for transport. For definitions and information on hazard types, see Articles 3 and 4 of Order.

5. Separation distances from store to nearest facility⁴

Facility	Distance (m)
Occupied building on site	
Occupied building off site	
Place of public resort	
Major road	
Vulnerable building	
Minor road/railway line	
Bridleway/footpath/footway/lightly-used road/waterway	
Reference zone radius ⁵	

6. Number of dwellings in reference zone⁶:

7. Maximum quantity of explosives proposed to be stored⁷

Hazard type	Maximum quantity proposed (kg)
1	
2	
3	
4	
Controlled substances	
ANBI	
Ammonium nitrate	
Other	

⁴See Schedule 4 of Order for tables and explanations of separation distances.

⁵See Article 3 of, and Schedule 4 to, Order for explanation of reference zone.

⁶This should be determined by a physical survey, using scaled map as reference.

⁷This quantity is normally the net explosive mass in kg, and the maximum quantity permitted depends on available separation distances. To calculate the maximum permitted quantity, proceed as follows, in accordance with Schedule 4 of the Order, for each hazard type of explosives proposed to be stored:

- a. Select correct table depending on store construction and hazard type.
- b. Use appropriate line for proposed quantity of explosives.
- c. Ascertain whether high-density or low-density distance is appropriate, having regard to paragraphs 3 to 6 of Schedule 4.
- d. Compare required separation distance from table against actual available distance.
- e. If required distance exceeds available distance, reduce proposed quantity of explosives until available distance equals or exceeds required distance.
- f. The quantity so ascertained is the maximum permitted quantity.

8. Written assessments referred to in Article 15 of Order

(To be attached on first application for licence.)

Signature of Applicant⁸

.....

.....

(Block capitals)

Date:

⁸Submit form with maps and fee to Secretary of local authority, with copies to Government Inspector of Explosives, Department of Justice, Equality and Law Reform, 94 St. Stephens Green, Dublin 2.

SCHEDULE 2

LICENCE TO STORE EXPLOSIVES OR CONTROLLED SUBSTANCES

EXPLOSIVES ACT 1875

STORES FOR EXPLOSIVES ORDER 2007

Licence Number.....

1. The (*name of local authority*) hereby grants to..... (*name and address of licensee*) a licence under section 15 of the Explosives Act 1875 to store the following explosives/controlled substances at.....(*address*) up to an amount not exceeding that specified below in respect of each explosive/controlled substance:

Proper shipping name of explosive/controlled substance	UN number	UN hazard code	Hazard type*	Maximum permitted net quantity (kg)

2. This licence is subject to the following condition(s):

.....

3. This licence expires on:, unless earlier revoked.

Signed on behalf of (*name of local authority*):

.....

Position:

Date:

*See Article 4 of Order for explanation of hazard type.

SCHEDULE 3

SAFETY MEASURES IN STORES FOR EXPLOSIVES

1. Measures to prevent fire or explosion:
 - (a) excluding naked flame;
 - (b) excluding sources of electrical energy which could produce sparks or otherwise initiate explosives;
 - (c) taking account of risks posed by surrounding buildings and structures in deciding where to locate the store;
 - (d) excluding sources of electromagnetic radiation such as radio transmitters, mobile phones, walkie-talkies, etc., from areas where explosives are stored;
 - (e) preventing accidental initiation from frictional or impact energy;
 - (f) preventing accidental contact between explosives and exposed metal surfaces;
 - (g) preventing accidental contact between explosives and exposed hot surfaces;
 - (h) preventing contamination of explosives and ingredients (including contamination by water);
 - (i) prohibiting smoking or possession of smoking materials.
2. Measures to limit extent of fire or explosion:
 - (a) maintenance of required separation distances appropriate to the permitted explosives limits;
 - (b) management of stocks to ensure that limits on quantities of explosives stored are not exceeded;
 - (c) minimising the number of people permitted to enter areas where explosives are held so as to ensure that limits on persons permitted to be present in the store are not exceeded;
 - (d) ensuring that other dangerous goods, including flammable or toxic materials, are excluded from areas where explosives are stored;
 - (e) measures to prevent the spreading of fire and communication of explosions from one place to another.

3. Measures to protect persons from effects of fire and explosion:

- (a) establishment of emergency procedures in the event of a fire or explosion;
- (b) training of staff in those procedures and in fire-fighting;
- (c) measures to inform visitors of those procedures;
- (d) precautions to prevent the outbreak of fire, including keeping escape routes free and removal of materials that may contribute to the spread of fire;
- (e) measures to protect against explosion;
- (f) provision of appropriate manual and automatic fire detection and warning systems,
- (g) measures for testing, checking and maintaining those systems and for making written records of the tests and checks;
- (h) provision of means of escape and evacuation.

4. Measures to ensure safe systems of work:

- (a) measures to ensure that personnel entering explosives stores or handling explosives are competent, suitably trained and have appropriate tools, clothing and equipment;
- (b) measures to ensure that a person under 18 is not employed in or does not enter the store;
- (c) housekeeping measures, including frequent cleaning and inspection to ensure that buildings containing explosives and their surroundings are kept clean and tidy, free from grit, explosive waste and flammable materials or vegetation;
- (d) stock management measures to ensure—
 - (i) that stock is rotated so as to prevent build-up of old stock, and
 - (ii) that thermal and chemical stability and condition of stock is monitored;
- (e) planned maintenance measures to ensure that—
 - (i) the interior and exterior of the store provide adequate weather protection,
 - (ii) electrical and lightning protection equipment is in good condition,
 - (iii) shelving and stacking systems are stable,

- (iv) floors and walls are free of cracks, and
- (v) there are no areas of exposed iron, steel, rust, etc.
- (f) provision of safe systems for carrying out maintenance to ensure that—
 - (i) before any maintenance work producing heat or sparks is begun, explosives are removed from the building concerned and the building is thoroughly cleaned of explosive contamination, and
 - (ii) maintenance contractors are made fully aware of the general and special rules before beginning the work;
- (g) provision of safe systems for—
 - (i) transporting and handling explosives on site, including use of mechanical handling equipment to avoid collision, impact and dropping incidents, and
 - (ii) ensuring that powered vehicles are not left parked or unattended in buildings or areas containing explosives.

SCHEDULE 4

TABLES OF SEPARATION DISTANCES

1. (1) Where the storage is of—
 - (a) hazard type 1 explosive in a brick-built mounded store, Table 1 applies;
 - (b) hazard type 1 explosive in a brick-built unmounded store, Table 2 applies;
 - (c) hazard type 1 explosive in a metal-built mounded store, Table 3 applies;
 - (d) hazard type 1 explosive in a metal-built unmounded store without detonator annex attached, Table 4 applies;
 - (e) hazard type 1 explosive in a metal-built unmounded store with detonator annex attached, Table 5 applies;
 - (f) hazard type 2 explosive and some or all items exceed 0.7 kg net mass, Table 6 applies;
 - (g) hazard type 2 explosive and no item exceeds 0.7 kg net mass, Table 7 applies;
 - (h) hazard type 3 explosive, Table 8 applies;
 - (i) hazard type 4 explosive, Table 9 applies.

(2) Where an explosive of any hazard type and a controlled substance are stored on the same site, Table 10 applies, in addition.

2. Subject to paragraphs 3 and 4, the separation distance between a store and any building, place of public resort or major road is the distance specified in column 2 (low-density distance) of the relevant table corresponding to the quantity of explosives shown in column 1 of the table.

3. Subject to paragraph 4, where—
 - (a) Table 1, 3, 4 or 5 applies, and
 - (b) the number of dwellings in the reference zone is greater than the maximum number of dwellings specified in the line of column 6 of the table corresponding to the quantity of explosives specified in that line of column 1 thereof,

the separation distance between the store and any such dwelling is the high-density distance (if any) specified in the corresponding line of column 3 of the table.

4. For the purposes of this Order, the radius for a reference zone is the distance (if any) specified in the entry in column 5 (reference zone radius) of Table 1, 3, 4 or 5 corresponding to the quantity of explosives shown in column 1 of the table concerned.

5. Where there is a dash in a column headed “high-density distance”, the low-density distance applies.

6. The separation distance between a store and any vulnerable building is the distance (if any) specified in column 4 (vulnerable building distance) of the relevant table corresponding to the quantity of explosives shown in column 1 of the table.

7. The separation distance between a store and any minor road or railway line is half the distance shown in column 2 of the relevant table corresponding to the quantity of explosives shown in column 1 of the table, and that between a store and any bridleway, footpath, footway, lightly-used road or waterway is one-third of that distance.

8. A separation distance is measured in the horizontal plane from the nearest outside edge of the building or place where explosives are stored to the nearest point of the building or place in relation to which the separation distance applies.

9. Where there is more than one store on a site, the appropriate separation distances applicable to the stores shall be determined by an inspector.

10. Any separation distance specified in this Schedule is subject to modification where topographical features are likely to affect the direction and distance of blast effects or fragment throw: if any such feature is present, the local authority concerned shall seek advice in relation to the applicable separation distance from an inspector.

11. For separation distances between a store and a workshop or process area where explosives are removed from their transport packaging, e.g. for preparing fraction packs, a local authority shall also seek advice from an inspector.

12. For the purposes of this Schedule—

- (a) references to a bridleway, footpath, footway or waterway do not include references to a bridleway, footpath, footway or waterway ordinarily used or navigated by not more than 20 persons in any 24-hour period,
- (b) “dwelling” includes a flat or apartment, and
- (c) a reference in column 1 of a table to a quantity of explosives is a reference to a quantity which is more than the lower quantity specified in that column but not more than the higher quantity specified.

Table 1: Hazard Type 1 explosive in brick-built mounded store

1	2	3	4	5	6
Quantity of explosives	Low-density distance	High-density distance	Vulnerable building distance	Reference zone radius	Maximum number of dwellings in reference zone
(kg.)	(m)	(m)	(m)	(m)	
0.1-25	101	-	101	-	-
25-50	107	-	107	-	-
50-75	112	-	112	-	-
75-100	118	-	118	-	-
100-150	128	142	128	257	81
150-200	139	156	139	278	96
200-300	161	180	161	322	128
300-400	183	-	183	-	-
400-450	193	-	193	-	-
450-500	204	-	204	-	-
500-600	204	-	216	-	-
600-700	204	231	238	408	206
700-800	204	238	260	408	206
800-900	204	245	280	408	206
900-1000	204	250	300	408	206
1000-1100	204	255	319	408	206
1100-1200	204	259	337	408	206
1200-1300	204	263	354	408	206
1300-1400	204	266	370	408	206
1400-1500	204	269	386	408	206
1500-1600	204	272	402	408	206
1600-1700	208	274	416	416	214
1700-1800	215	277	431	431	229
1800-1900	222	279	444	444	244
1900-2000	229	281	458	458	259

Table 2: Hazard Type 1 explosive in brick-built unrounded store

1 Quantity of explosives (kg.)	2 Low-density distance (m)	3 Vulnerable building distance (m)
0.1-25	141	141
25-50	160	160
50-75	180	180
75-100	199	199
100-150	230	230
150-200	256	256
200-300	293	293
300-400	320	320
400-450	331	331
450-500	340	340
500-600	355	355
600-700	367	367
700-800	377	377
800-900	385	385
900-1000	392	392
1000-1100	398	398
1100-1200	403	403
1200-1300	408	408
1300-1400	412	412
1400-1500	415	415
1500-1600	418	418
1600-1700	421	421
1700-1800	424	431
1800-1900	426	444
1900-2000	428	458

Table 3: Hazard Type 1 explosive in metal-built mounded store

1	2	3	4	5	6
Quantity of explosives	Low-density distance	High-density distance	Vulnerable building distance	Reference zone radius	Maximum number of dwellings in reference zone
(kg.)	(m)	(m)	(m)	(m)	
0.1-25	34	45	40	68	6
25-50	37	45	48	74	7
50-75	40	45	54	80	8
75-100	43	48	66	86	9
100-150	49	55	86	97	12
150-200	54	62	104	109	15
200-300	68	76	136	136	23
300-400	83	-	165	-	-
400-450	89	-	178	-	-
450-500	96	-	191	-	-
500-600	108	-	216	-	-
600-700	119	-	238	-	-
700-800	130	-	260	-	-
800-900	140	-	280	-	-
900-1000	150	-	300	-	-
1000-1100	159	-	319	-	-
1100-1200	168	-	337	-	-
1200-1300	177	-	354	-	-
1300-1400	185	-	370	-	-
1400-1500	193	-	386	-	-
1500-1600	201	-	402	-	-
1600-1700	208	-	416	-	-
1700-1800	215	-	431	-	-
1800-1900	222	-	444	-	-
1900-2000	229	-	458	-	-

Table 4: Hazard Type 1 explosive in metal-built unrounded store without detonator annex attached

1	2	3	4	5	6
Quantity of explosives (kg.)	Low-density distance (m)	High-density distance (m)	Vulnerable building distance (m)	Reference zone radius (m)	Maximum number of dwellings in reference zone
0.1-10	23	30	40	46	3
10-20	29	35	42	57	4
20-30	33	39	44	65	5
30-40	36	42	46	71	6
40-50	38	44	48	76	7
50-60	40	46	48	80	8
60-70	42	48	52	84	9
70-80	43	50	57	87	9
80-90	44	52	61	89	10
90-100	45	55	66	91	10
100-110	46	57	70	93	11
110-120	47	59	74	95	11
120-130	48	62	78	97	12
130- 140	49	64	82	98	12
140-150	50	66	86	100	12
150-160	51	68	90	102	13
160-170	52	71	93	104	13
170-180	53	73	97	106	14
180-190	54	75	101	108	14
190-200	55	78	104	110	15
200-300	68	101	136	136	23
300-400	83	124	165	165	34
400-450	89	135	178	178	39
450-500	96	138	191	191	45
500-600	108	144	216	216	57
600-700	119	150	238	238	70
700-800	130	156	260	260	83
800-900	140	162	280	280	97
900-1000	150	168	300	300	111
1000-1100	159	168	319	318	111
1100-1200	168	-	337	-	-
1200-1300	177	-	354	-	-
1300-1400	185	-	370	-	-
1400-1500	193	-	386	-	-

Table 4: Hazard Type 1 explosive in metal-built unrounded store without detonator annex attached

1	2	3	4	5	6
Quantity of explosives (kg.)	Low-density distance (m)	High-density distance (m)	Vulnerable building distance (m)	Reference zone radius (m)	Maximum number of dwellings in reference zone
1500-1600	201	-	402	-	-
1600-1700	208	-	416	-	-
1700-1800	215	-	431	-	-
1800-1900	222	-	444	-	-
1900-2000	229	-	458	-	-

Table 5: Hazard Type 1 explosive in metal-built unrounded store with detonator annex attached

1	2	3	4	5	6
Quantity of explosives (kg.)	Low-density distance (m)	High-density distance (m)	Vulnerable building distance (m)	Reference zone radius (m)	Maximum number of dwellings in reference zone
0.1-25	38	53	54	74	11
25-50	43	53	54	86	11
50-75	48	60	54	96	11
75-100	53	77	66	106	14
100-150	63	110	86	127	20
150-200	74	143	104	147	27
200-300	94	209	136	188	44
300-400	115	275	165	229	65
400-450	125	308	178	250	77
450-500	128	309	191	257	81
500-600	135	311	216	270	90
600-700	142	312	238	283	99
700-800	148	314	260	297	109
800-900	155	316	280	310	119
900-1000	162	318	300	324	129
1000-1100	169	319	319	337	140
1100-1200	175	321	337	350	152
1200-1300	182	323	354	364	163
1300-1400	189	325	370	377	176
1400-1500	195	326	386	391	188
1500-1600	202	328	402	404	202
1600-1700	209	330	416	417	215
1700-1800	215	332	431	431	229
1800-1900	222	333	444	444	244
1900-2000	229	335	458	458	259

Table 6: Hazard Type 2 explosive where some or all items exceed 0.7kg. net mass

1 Quantity of explosives (kg.)	2 Low-density distance (m)	3 Vulnerable building distance (m)
0.1-25	45	90
25-50	88	176
50-75	108	216
75-100	129	238
100-150	148	296
150-200	168	336
200-300	191	382
300-400	207	414
400-450	213	426
450-500	219	438
500-600	226	452
600-700	233	466
700-800	240	480
800-900	248	496
900-1000	256	512
1000-1100	259	518
1100-1200	262	524
1200-1300	266	532
1300-1400	270	540
1400-1500	274	548
1500-1600	278	556
1600-1700	282	564
1700-1800	286	572
1800-1900	288	576
1900-2000	292	592

Table 7: Hazard Type 2 explosive where no item exceeds 0.7kg. net mass

1 Quantity of explosives (kg.)	2 Low-density distance (m)	3 Vulnerable building distance (m)
0.1-25	37	76
25-50	43	86
50-75	47	94
75-100	51	102
100-150	56	112
150-200	60	120
200-300	66	132
300-400	71	142
400-450	73	146
450-500	74	148
500-600	76	152
600-700	78	158
700-800	81	162
800-900	84	164
900-1000	87	174
1000-1100	88	176
1100-1200	89	178
1200-1300	90	180
1300-1400	91	182
1400-1500	92	184
1500-1600	94	188
1600-1700	95	190
1700-1800	97	194
1800-1900	99	198
1900-2000	101	202

Table 8: Hazard Type 3 explosive

1 Quantity of explosives (kg.)	2 Low-density distance (m)
0.1-5	-
5-10	14
10-15	16
15-20	18
20-25	19
25-50	23
50-75	25
75-100	29
100-150	33
150-200	37
200-300	42
300-400	47
400-450	47
450-500	50
500-600	51
600-700	53
700-800	54
800-900	55
900-1000	63
1000-1100	70
1100-1200	71
1200-1300	72
1300-1400	73
1400-1500	74
1500-1600	75
1600- 1700	76
1700-1800	78
1800-1900	79
1900-2000	80

Table 9: Hazard Type 4 explosive

1 Quantity of explosives (kg.)	2 Low-density distance (m)
0.1-25	0
25-300	1
300-340	2
340-370	3
370-400	4
400-450	5
450-500	6
500-550	7
550-600	8
600-650	9
650-700	10
700-750	11
750-800	12
800-900	13
900-950	14
950-1000	15
1000-1100	16
1100-1150	17
1150-1200	18
1200-1300	19
1300-1350	20
1350-1400	21
1400-1450	22
1450-1550	23
1550-1600	24
1600-1650	25
1650-1700	26
1700-1800	27
1800-1850	28
1850-1900	29
1900-2000	30

Table 10: Separation distance between explosives store and controlled substance

1	2	3	4	5	6
Quantity of explosive	Distance where controlled substance is AN passing the detonation resistance test or an AN blasting intermediate in UN 3375 (mounded store)	Distance where controlled substance is AN passing the detonation resistance test or an AN blasting intermediate in UN 3375 (unmounded store)	Distance where controlled substance is AN not passing the detonation resistance test or an AN blasting intermediate not in UN 3375 (mounded store)	Distance where controlled substance is AN not passing the detonation resistance test or an AN blasting intermediate not in UN 3375 (unmounded store)	Minimum thickness of artificial mound
(kg.)	(m)	(m)	(m)	(m)	(cm)
Under 50	1	5	3	20	30
50-100	1	7	4	23	30
100-200	1	8	5	29	30
200-500	2	11	7	41	30
500-1000	2	15	9	55	30
1000-2000	3	19	11	68	40

Note: In this Table, "AN" means ammonium nitrate.



GIVEN under the Official Seal of the Government,
11 December 2007

BERTIE AHERN
Taoiseach

EXPLANATORY NOTE

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

This Order regulates the licensing, construction, operation, separation distances, fire and explosion assessment and safety measures associated with stores for explosives as licensed by the local authorities.

This Order revokes and replaces the Stores for Explosives Order, 1955 (S.I. No. 42 of 1955).

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