



Dangerous Goods Cargoes (Class 1)  
Bye-Laws 2015

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## Part I – GENERAL PROVISIONS

### 1. Authorisation and commencement

- a) Dublin Port Company being the Harbour authority within the meaning of Sections 83 of the Harbours Act 1996 (as amended) in exercise of the powers conferred on it by Section 34, 38 and 39, of the Explosives Act, 1875, as adapted, hereby, with the sanction of the Minister for Justice and Equality, make the following Bye-laws for its Harbour.
- b) These Bye-laws may be cited as Dangerous Goods Cargoes (Class 1) Bye Laws, 2015
- c) These Bye-Laws have come into effect on 3rd day of June, 2015 and have superseded and replaced the Dangerous Goods (Cargoes) Bye-Laws of the Port of Dublin 1986, insofar as they apply to Class 1 Dangerous Goods (Explosives), which are hereby revoked.
- d) The Interpretation Act, 1937 (No. 38 of 1937), applies to these Bye-laws.
- e) The control of Dangerous Goods at Dublin Port of all other Classes, except Class 1 is regulated under the Dublin Port Dangerous Cargoes Bye-laws, which came into effect on the 5<sup>th</sup> day of May 2014.

### 2. Definitions

#### *ADR*

*Accord Européen Relatif au Transport International des Marchandises Dangereuses par Route.* This is an international agreement which specifies requirements for the transport by road of dangerous or hazardous goods.

#### *Authorised Officers, Personnel or Representatives of the Company*

Dublin Port Company authorised officers and personnel, representatives of the Company (including contracted personnel) that are suitably qualified and authorised by the Harbour Master to ensure compliance with these Bye Laws.

#### *Berth*

Includes any dock, graving dock, pier, jetty, quay, mooring and other place at which a Vessel might lie.

#### *Cargo interests<sup>1</sup>*

Means a consignor (shipper), cargo agent, carrier, forwarder, consolidator, packing centre or any person, company or institution involved in any of the following activities: identification, containment, packaging, packing, securing, marking, labelling, placarding or documentation, as appropriate, of dangerous cargoes for receipt by a port and transport by sea and having control over the cargo at any time. In the case of the Company this means Port tenants operating a facility within the company estate.

#### *Company*

Dublin Port Company was established as a corporate entity in 1997, and is responsible for the management,

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<sup>1</sup> Cargo interest as defined in “Revised Recommendations on the Safe Transport of Dangerous Cargoes and related Activities in Port Areas”, MSC.1/Circ. 1216, February 2007, Maritime Safety Committee of IMO.

control, operation and development of the port. The Company provides facilities, services, accommodation and lands in the harbour area for ships, goods and passengers. The Company is a limited liability company incorporated under the Companies Acts, 1963 to 1990 and registered in Ireland No. 262367.

*Competent Authority*

In Ireland the following are the legally recognised competent authorities related to transport of dangerous goods:-

*Main Competent Authority for land transport.*

Health and Safety Authority  
Dublin

*Competent Authority for transport by Sea*

Marine Survey Office (MSO), Dublin.

*Competent Authority for ADR Class 1:*

Minister for Justice and Equality  
Department of Justice and Equality  
Dublin,

*Competent Authority for ADR/IMDG Class 7:*

Industrial Section  
Regulatory Services Division  
Radiological Protection Institute of Ireland  
Dublin

*Competent Authority for certification of Vehicles carrying dangerous goods under ADR:*

The Road Safety Authority,  
Ballina, Co Mayo.

*Competent Authority for transport within the Dublin Port area.*

Dublin Port Company  
Port Centre  
Alexandra Road,  
Dublin

Note -The Harbour Master has responsibilities for safety within the port.

*Competent person*

A competent person is defined in the Safety, Health and Welfare at Work (SHWW) Act, 2005 as “Having regard to the task he or she is required to perform and taking account of the size or hazards of an undertaking or establishment in which he or she undertakes work; the person possesses sufficient training, experience and knowledge appropriate to the nature of the work to be undertaken”.

*Dangerous Goods*

Means material that is likely to cause harm to people, equipment or the environment. For the purposes of these bye-laws dangerous goods are any material that is listed in tables of the United Nations Recommendations of Dangerous Goods Model Regulations.<sup>2</sup>

*Designated Berth*

Means the berths at Dublin Port and as indicated in the maps attached to these byelaws signed by the Government Inspector of Explosives in Port facility of the Dublin Port Company authorised for the handling, loading and unloading of explosives in accordance with the conditions laid down in the Schedule 3 and Schedule 4 attached hereto;

*Division*

Means a Hazard Division specified in Schedule 1;

*Explosives*

Means Class I explosives as classified in the manual published by the United Nations Organisation and entitled "Eleventh 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 edition thereof which is in substitution for and not an alternative to the edition aforesaid;

*Explosive Article*

Explosive article means an article containing one or more explosive or pyrotechnic substances

*Explosive Substance*

Explosive substance means a solid or liquid substance (or a mixture of substances) which is in itself capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings.

*Explosives officer*

Means a person appointed under Bye-Law 20;

*Group*

Means a Compatibility Group specified in Schedule 2.

*Fairway*

Means a channel which is designated for shipping.

*Goods*

Means all articles and merchandise of any description and includes fish, livestock and animals.

*Harbour*

Means the Harbour as defined in Harbours Act, 1996 (Limits of Harbour of Company (Alteration) Order 1997) being the limits consisting of and including: -

The river Liffey and the quays and walls bounding the same;

The walls called the North Wall, the South Wall and the East Wall, respectively;

The piers, jetties, tidal basins and other works constructed by or belonging to the Company; and

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<sup>2</sup> Recommendations on the Transport of Dangerous Goods Model Regulations (Seventeenth revised edition) July 2011

The harbour of Dublin and the strands, bays, creeks and harbours thereof and all waters inside that area, commencing from and including the Rory O' Moore Bridge at Heuston Station in the City of Dublin, and extending to an imaginary straight line drawn from the Baily Lighthouse on the north in the County of Dublin and extending through the North Burford Bank Buoy and thence through the South Burford Bank Buoy and thence to Sorrento Point on the south including the harbours of Bullock and Sandycove, but excepting the limits of the harbour of Dun Laoghaire Harbour Company, and excepting also the Harbours of Coliemore and Sutton.

*Harbour Craft*

Means a Vessel which is used mainly within the Harbour and owned / operated by the Company.

*Harbour Master.*

The person appointed by the Company as Harbour Master from time to time and for the purposes of these Bye-laws means the Harbour Master for the time being of the port, and shall include the Harbour Master's nominees which are the Deputies and Assistants of the Harbour Master while acting within their authority as such Deputies and Assistants. The Harbour Master is a prescribed function in the Harbours Act 1996.

*Harbour Master's Nominees*

See Authorised officers and representatives of the Company. Refer to Sections (37) 1 (b) and (46) 1 of the Harbours Act 1996.

*Harbour Police*

Means a member or members of Dublin Harbour Police.

*Harbour Premises*

Means the Harbour and property including docks, quays, slipways, jetties, stages and all other harbours, works, land and buildings (whether owned, licensed or leased) for the time being vested in or occupied by or administered by the Company.

*High consequence dangerous goods*

Are those goods which have the potential for misuse in a terrorist incident and which may, as a result, produce serious consequences such as mass casualties or mass destruction.

*IMDG Code*

The International Maritime Dangerous Goods (IMDG) Code deals with various aspects of maritime safety and contains the mandatory provisions governing the carriage of dangerous goods in packaged form or in solid form in bulk. Although the information in the Code is directed primarily at the mariner, its provisions may affect a range of industries and services: manufacturers, packers, shippers, feeder services such as road and rail, and port authorities will find reliable advice on terminology, packing, labelling, classification, stowage, segregation, and emergency response action.<sup>3</sup>

*The International Convention for Safe Containers*

The International Convention for Safe Containers (CSC) was finalised in 1972 in response to the rapid increase in the use of freight containers and the development of specialized container ships. It took effect in 1977 and applies to containers of a prescribed minimum size having corner fittings. The most recent update took place in July 2012.

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<sup>3</sup>The International Maritime Dangerous Goods (IMDG) Code is accepted as an international guideline to the safe transportation or shipment of dangerous or hazardous goods by water on vessels. It is updated every two years and is published by the International Maritime Organisation (IMO).

*Master*

The word 'Master' when used in relation to any Vessel shall mean the person having command or charge of the Vessel for the time being, but shall not include Pilots.

*Net Explosive Content (NEC)*

Means the total mass of explosive substances without the packaging, casings or other non-explosive material. (Note: Similar terms with same meaning are Net Explosive Quantity (NEQ), Net Explosive Mass (NEM) or Net Explosive Weight (NEW)).

*Owner*

When used in relation to Goods includes any consignor, consignee, shipper or agent for the sale, receipt, custody, loading or unloading and clearance of those Goods and includes any other person in charge of the Goods or his agent, in relation thereto; and when used in relation to a Vessel includes any part owner, broker, charterer, agent or mortgagee, in possession of the Vessel or other person or persons entitled for the time being in possession of the Vessel.

*Passenger vessel*

Means a vessel which is certified to carry more than 12 passengers or has more than 12 passengers on board at the relevant time.

*Protected area*

Means an area within the Harbour at the designated berth within which explosives are handled in the course of loading onto or unloading from a ship or vehicle and the boundary of which is not less than 10 metres from the explosives;

*Port Security Staff*

See Authorised Officers, Personnel or Representatives of the Company.

*Pyrotechnic Substance*

Pyrotechnic substance means a substance or a mixture of substances designed to produce an effect by heat, light, sound, gas or smoke or a combination of these as the result of non-detonative self-sustaining exothermic chemical reactions

*Quay*

Means any quay, wharf, jetty, dolphin, landing stage or other structure used for berthing or mooring Vessels and includes any pier, bridge, roadway or footway immediately adjacent and affording access thereto.

*Regulatory authority*

Means the national, regional or local authority empowered to make legal requirements in respect of a port area and having powers to enforce the legal requirements. In Ireland, the Health and Safety Authority are the regulatory authority with respect to the transport of dangerous goods overland and the Marine Survey Office<sup>4</sup> is the regulatory authority for shipping.

*Responsible person*

Means a person appointed by a shore side employer or by the master of a ship who is empowered to take all decisions relating to a specific task, having the necessary current knowledge and experience for that purpose and, where required, is suitably certificated or otherwise recognised by the regulatory authority.

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<sup>4</sup> The Marine Survey Office (MSO) is part of the Maritime Safety Directorate (MSD) of the Department of Transport, Tourism and Sport. The MSO is responsible for the implementation of all national and international legislation in relation to safety of shipping and the prevention of pollution of the marine environment from ship-based sources.



*Small Vessel*

Means any vessel of less than 20 metres in length including a sailing vessel and for the purpose of this definition 'sailing vessel' means a vessel designed to carry sail, whether as a sole or as a primary or supplementary means of propulsion.

*The Safety, Health and Welfare at Work Act, 2005*

This Act sets out the main provisions for securing and improving the safety, health and welfare of people at work. These responsibilities are those of all employers in the Port area, including all Cargo Interests tenants and the Company.

*Terminal Operator*

Any entity duly authorised by Dublin Port Company under the terms and conditions of the franchise agreement covering that Operator in an area approved for handling Class 1 Dangerous Goods as per Schedule 3 and Schedule 4 of these bye-laws.

*Vehicle*

Includes any vehicle mechanically propelled or propelled on rails, any machinery on wheels or caterpillar tracks, trailers, caravans and mobile homes, and any amphibious vehicles while on land.

*Vessel*

Means a ship, boat, raft or water craft of any description and includes non-displacement craft, seaplanes and any other thing constructed or adapted for floating on, manoeuvring on or being submersed in water (whether permanently or temporarily) and a hovercraft or any other amphibious vehicle during such time as it is in or hovering over the water, other than a Small Vessel.

*VTS*

Means the Company's Vessel Traffic System. This system controls all vessel movements within the Port's area of jurisdiction.

Note

All terms used in these Bye-Laws shall have the same meaning as set out in the Act (The Harbours Act, 1996, as amended).

Any reference to a statute, Statutory Instrument, order, convention or regulation shall be deemed to refer to such statute, order, convention or regulation as amended, varied or replaced from time to time.

### **3. Penalties**

- a) Where there is a contravention of these Bye-laws by any person or body corporate, that person or body corporate shall be guilty of an offence.
- b) Where an offence under these Bye-laws is committed by a body corporate and is proved to have been so committed with the consent or connivance of, or to be attributable to any neglect on the part of, any person who, when the offence was committed was a director, manager, secretary or other officer of the body corporate, or a person purporting to act in any such capacity, that person, as well as the body corporate, shall be guilty of an offence and shall be liable to be proceeded against and punished as if that person was guilty of the first-mentioned offence.
- c) Proceedings in relation to an offence under these bye-laws may be brought and prosecuted by the Minister for Justice and Equality, Dublin Port Company, or the Harbour Master.
- d) A person, or body corporate found guilty of an offence under these Bye-laws shall be guilty of an offence pursuant to Section 34 of the Explosives Act 1875, and shall be liable
  - i) on summary conviction -to a fine not exceeding Euro 5,000,
  - ii) on conviction on indictment, a fine not exceeding Euro 10,000

### **4. Application**

- a) These Bye-Laws shall apply within the limits of the Harbour of the Dublin Port Company as defined in Paragraph 7 of Part I of the Third Schedule of the Harbours Act 1996
- b) These bye-laws apply throughout the Waterside and Shore side boundaries of the port area stipulated in the Harbours Act, 1996 (Limits of Harbour of Company) (as amended).
- c) These bye-laws apply to explosives within the Company Estate and shall apply to all explosives except:
  - iii) Lifesaving, signalling or distress marine pyrotechnics where these pyrotechnics are held as part of a ship's emergency equipment, provided all safety and signalling devices of class 1 shall be compliant with any special provisions of the IMDG as specified in the Class 1 dangerous goods List regarding packing and stowage instructions, and
  - iv) Explosives carried in an Irish or Foreign Warship.
- d) No provision of these Bye-laws specifying maximum quantities of explosives or minimum separation distances shall apply to Division 1.4.
- e) No provision of these bye-laws specifying maximum berth occupancy per annum shall apply to explosives in Division 1.4.
- f) In accordance with Section 97 of the Explosives Act, these Bye laws do not apply to the conveyance of any explosives that are under the control of the Defence Forces and that are conveyed in accordance with regulations made under the Defence Acts by the Minister for Defence.

### **5. Explosives for use in Harbour Works**

- a) Up to 250 kg NEC weight of Class 1 goods may be conveyed within the Port for immediate use in construction works, demolition works or wreck dispersal provided that:-
  - i) The written approval of the Harbour Master, his nominee or authorised Officer or Representative of the company has first been obtained,

- ii) The Class 1 goods are conveyed, stored and used in compliance with any conditions imposed by the Harbour Master, his nominee or authorised Officer or Representative of the Company and in consultation with the Garda Síochána and the Government Inspector of Explosives.

## **6. Enforcement**

- a) The Harbour Master shall be responsible for enforcing these Bye-Laws, and the Explosives Officer shall ensure that the provisions of these Bye-laws are brought to the notice of all persons employed in the handling, loading or unloading of explosives at a designated berth.
- b) The Harbour Master shall have the power to relax or waive any provision of these bye-laws in the case of emergency or distress only, where such relaxation or waiver is justified by practical considerations and where it is reasonable to do so (excluding commercial gain or expediency). Any such relaxation or waiver will be subject to whatever conditions are imposed by the Company
- c) The Harbour Master shall have the power to have removed from the Port area any Class 1 dangerous goods. Costs arising from such removals and storage and transport costs shall be recovered from the owner as a simple contract debt, in any Court of competent jurisdiction.
- d) The Harbour Master, as required under the Explosive Act 1875 Section 34, and these Bye Laws for regulating the conveyance, loading and unloading of explosives within the jurisdiction of the Port, and in particular for enforcing the observance of this Act within the jurisdiction of the Port estate, has the following duties:
  - i. In the event of any breach of a byelaw under this section - it shall be lawful for the Harbour Master or other suitably qualified Authorised officer, Personnel, Representatives of the Company (including contracted personnel) who has been authorised by the Harbour Master, to cause such ship to be removed to such place or otherwise dealt with in all such manner as may be in conformity with the byelaws. Any person resisting such harbour master or officer or other person in such removal shall be liable to the same penalties as a person is liable to for obstructing the harbour master in the execution of his duty.

## Part II – Requirements for Class 1 Dangerous goods

### 7. General

Class 1 Dangerous Goods include explosive substances, pyrotechnic substances and explosive articles, all coming under the common term – “explosives”.

- a) There are six Divisions within Class 1. Within the Divisions, compatibility groups are also assigned to define which explosive can be safely stowed and transported together. Goods of class 1 are considered to be "compatible" if they can be safely stowed or transported together without significantly increasing either the probability of an accident or, for a given quantity, the magnitude of the effects of such an accident. By this criterion, goods listed in class 1 have been divided into a number of compatibility groups, each denoted by a letter from A to L (excluding I), N and S.
  - i) The Divisions are listed in Schedule 1 of these bye-laws.
  - ii) The Groups are listed in Schedule 2 of these bye-laws.

Explosives shall not be permitted to be shipped through the port area unless the Harbour Master or nominee has given express permission. This shall include explosives in transit<sup>5</sup>.

- b) Class 1 is a restricted class, that is, only those explosive substances and articles that are listed in the Class 1 dangerous goods List in Chapter 3.2 of the IMDG Code may be accepted for transport. However, the competent authorities retain the right by mutual agreement to approve transport of explosive substances and articles for special purposes under special conditions.
- c) Class-1 cargoes shall only be allowed to enter the port area for direct transport to or from ships (import and export).

### 8. Authorised Explosives

The Harbour Master shall not permit Class 1 dangerous goods to enter or leave Dublin Port:-

- a) Unless such goods have been classified in accordance with UN Model Regulations and their shipment is compliant with the requirements of the current ADR and the IMDG Codes.
- b) Where these Class 1 dangerous goods are to be unloaded within the Port (to the quay or to another vessel), such unloading shall not commence until the Harbour Master has been satisfied that the importation into the State of these goods is authorised by means of an importation licence issued by the Minister for Justice and Equality. Proof of such licence shall be provided to the Company prior to unloading. The vessel shall only enter the Port on being given clearance by the Harbour Master or nominee.
- c) Where these Class 1 dangerous goods are not to be unloaded within the Port, they shall not enter the Port except with the express written approval of the Harbour Master or nominee.

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<sup>5</sup> IMO Maritime Safety Committee, “Recommendations on the safe transport of dangerous cargoes and related activities in port areas”. MSC.1 / Circ. 1216 of February 2007.

- d) The Company may refuse acceptance of consignments of Class 1 dangerous goods which do not comply with the applicable transport regulations or with the requirements of these Port Bye-Laws or which do not have correct transport documents available (including the license issued by the Department of Justice and Equality), or may prohibit onward transport or place consignment under safe-keeping until these deficiencies have been remedied and accepted by the Harbour Master.

## 9. Prohibited Goods

A person shall not bring, deposit or organise the bringing into the Port prohibited goods.<sup>6</sup> In these bye-laws prohibited goods shall include any Class 1 goods which are imported without a valid import licence issued by the Minister for Justice and Equality to that person for the goods concerned or a valid export licence issued by the Competent Authority.

## 10. Security of Explosives

- a) The Cargo Agent acting for the receiver / shipper of class 1 Dangerous Goods shall advise An Garda Síochána, not less than 48 hours prior to the expected time of arrival at the Port of Class 1 dangerous goods. In the case of military consignments the Department of Defence shall also be advised by the Cargo Agent acting for the receiver / shipper of class 1 Dangerous Goods.
- b) The vessel Master and the Terminal Operator appointed Explosives Officer representing the cargo interests shall liaise with the Superintendent of An Garda Síochána responsible for Dublin Port as to the security precautions to be taken.
- c) The vessel Master and the Explosives Officer shall ensure that the requirements of chapter 1.4 (Security provisions) of the IMDG Code and chapter 1.10 of the ADR are adhered to during activities involving Class 1 dangerous goods.
- d) Cargo receivers, shippers and shore-based transport operators are required to have a Security Plan in place in order to deal with High Consequence Class 1 dangerous goods in accordance with ADR and IMDG requirements.

**Note;** these provisions of the IMDG Code do not apply to the restricted areas of the Port, as the ISPS Code for port facility security plans covers measures designed to protect the port facility and ships, persons, cargo, cargo transport units and ships' stores within the port facility.

- e) Cargo Interests will keep records of all explosives loaded, unloaded or handled at a designated berth for a minimum of 10 years. They will produce these records for inspection where required by An Garda Síochána, the Harbour Master, or a Government Inspector of Explosives.

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<sup>6</sup> Prohibited goods are those which are listed as not accepted for transport in the IMDG and ADR Codes, in addition, firearms, explosives, radioactive materials unless under permit, weapons, or tobacco products which have not had duty paid and unlicensed narcotics are prohibited.

**11. Removal of Explosives from Port Area**

- a) It is the responsibility of the Terminal Operator appointed Explosives Officer representing the cargo interest that explosives shall be taken directly to or from a vessel, and in no circumstances be held on a berth for more than 2 hours.
- b) It is the responsibility of the Terminal Operator appointed Explosives Officer representing the cargo interest that explosives shall be unloaded as soon as reasonably practicable following the making secure at the berth of a vessel carrying Class 1 dangerous goods.
- c) No explosive may be stored by any Cargo Interest at any Port terminal or by any Port Tenant unless they are in possession of an appropriate storage licence, issued in accordance with The Explosives Act, 1875, such licence having been applied for with the agreement of the Company.
- d) Vehicles which have been loaded with explosives from a vessel at the Port shall leave the port area as soon as possible and in all circumstances within 2 hours of the explosive being loaded onto the vehicle from the vessel.
- e) If the loading or unloading is interrupted for any reason, then upon the expiration of 3 hours from the time when the loading or unloading was interrupted ;
  - i) the ship shall
    - (1) depart from the designated berth, and
    - (2) remain at a distance of not less than 1,000 metres from the designated berth in a location approved by the Harbour Master, until such time as the loading or unloading can recommence without delay - unless the Harbour Master gives other directions. In such case the Gardaí responsible for Dublin Port (Store Street Garda Station) should be informed immediately.
  - ii) All loaded vehicles shall depart the port in accordance with the Terminal Operator appointed Explosives Officer representing the cargo interest or Garda instructions.

**12. Advance Notification**

Advance or prior notification serves the purpose of allowing the port to check if the cargoes containing Class 1 dangerous goods to be handled or in transit can be accommodated without jeopardising the port's safety at the intended date and time, taking into account the type and quantity of cargo involved and any quantity limitations in force. Advance notifications shall be made via the Company-operated Management Information System (MIS). This system shall generate a Dangerous cargo permit and will include the appropriate day period allowed per shipment.

*a) Arrival by Sea*

- i) The Master of a Vessel or the Agent having on board Class 1 Dangerous Goods, shall notify the Harbour Master 48 hours prior to the vessel's arrival in the Port of such fact and of the nature and quantity of such goods on board, this notification shall be via the Company-operated Management Information System (MIS).
- ii) Class 1 dangerous goods shall be declared in advance of loading at the port of origin and pre-approved by the Harbour Master or nominee.

- iii) Consignments of Class 1 dangerous goods due to be brought into port area for the purpose of cargo handling or in transit must be notified electronically or in writing, with all details according to subparagraph (v) below, to the Harbour Master.
- iv) The notification is required at the latest 48 hours prior to arrival of the consignment in port for ships travelling on short sea routes from the United Kingdom. Notification shall be effected by the Ship's Master / Ship's Agent or Cargo Agent acting for the receiver / shipper of class 1 Dangerous Goods.
- v) The notification shall contain the following information<sup>7</sup>:  
*Class 1 dangerous goods Arrival Notification information requirements*
  - (1) Name of ship, IMO number and call sign;
  - (2) Number, type and gross mass of packages, UN number, proper shipping name, hazard class and, if applicable, its subdivision,;
  - (3) For goods with subsidiary risks, the kind of subsidiary risk;
  - (4) For goods of Class 1, in addition compatibility group and net explosive mass;
  - (5) For consignments in containers, in addition the container identification number;
  - (6) For dangerous goods on-board ships, the stowage position together with notification of those dangerous goods to be unloaded and those to remain on board;
  - (7) A Dangerous Goods Note;
  - (8) Confirmation that a valid licence from the Department of Justice and Equality is available.
  - (9) Any vessel defects.
- vi) The Master of vessels arriving at Dublin Port conveying Class 1 dangerous goods shall confirm to the Company using the VTS no later than 2 hours prior to arrival.

*b) Departure by Sea*

- i) Advance notification of vessels departing the Port with Class 1 Dangerous Goods is required 24 hours prior to departure of the consignment. Failure to notify will result in the vessel being delayed or refused permission to sail. Notification shall be effected by shipmaster, owner, terminal-operator or agent.
- ii) The information required is as shown above for arrival :

*c) Arrival by Road*

Advance notification for arriving vehicles with Class 1 dangerous goods shall be received by the Company no later than 48 hours prior to arriving at the Port. Failure to comply with this bye-law may result in entry to the Port being delayed or refused. Notification shall be made to the Company by the Dangerous Goods representative of the Cargo Interest or Terminal Operator for consignments delivered by road. The MIS shall be used for arrivals by road for export.

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<sup>7</sup> IMO MSC.1/Circ. 1216

*d) Arriving vehicles with Class 1 dangerous goods notification information*

- i) name of Consignor<sup>8</sup>;
- ii) time of arrival at the Port;
- iii) number, type and gross mass of packages, UN number, proper shipping name, hazard class and, if applicable, its subdivision,;
- iv) for goods with subsidiary risks, the kind of subsidiary risk;
- v) compatibility group and net explosive quantity (NEQ) or net explosive content (NEC)
- vi) for consignments in containers, in addition the container identification number;
- vii) a copy of the Dangerous Goods Note containing the Packing Declaration and name/contact details of consignor and consignee;
- viii) each transport unit driver shall have a valid Driver Training Certificate<sup>9</sup> attesting to his competency in transporting Dangerous Goods.
- ix) All dangerous cargo must be declared in advance of arrival in Dublin Port and pre-approved by the Harbour Master or nominee.

*e) Vehicles departing the Port with Class 1 dangerous goods*

- i) name of consignor;
- ii) name of consignee;
- iii) time of arrival at the Port;
- iv) number, type and gross mass of packages, UN number, proper shipping name, hazard class and, if applicable, its subdivision;
- v) for goods with subsidiary risks, the kind of subsidiary risk;
- vi) compatibility group and net explosive quantity (NEQ);
- vii) a copy of the Dangerous Goods Note containing the Packing Declaration and name/contact details of consignor and consignee;

### **13. Emergency Response**

*Preliminary note:* All Port Terminals and Port tenants are required to have in place a Company approved Dangerous Goods and an Emergency Response Plan, as required under Regulation 7.4.1 of the Dublin Port Bye-Laws for Dangerous Goods (Cargoes), 2014. Regulations 7.4.2 through to 7.4.8 of the 2014 Dangerous Goods (Cargoes), Bye-Laws on emergency response requirements shall be complied with at all times. See also section 13 f) below.

- a) Where explosives (other than Small Arms Ammunition in division 1.4S)-are to be loaded or unloaded in the Port area, a representative who has immediate access to specialist advice in the case of an emergency, shall be notified to the Explosives Officer by the Cargo Interest and shall be contactable by phone and be immediately available while the explosives are being loaded and/or unloaded.
- b) The phone contact of the representative with the specialist knowledge acting for the receiver/shipper of class 1 Dangerous Goods must be verified by the Terminal Operator appointed Explosives Officer prior to commencement of the loading/unloading of the vessel and/or vehicle. The representative with a specialist advice's role should not involve a command or control position in an incident.

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<sup>8</sup> A consignor is the entity which consign dangerous goods on its own behalf or for a third party (ADR 2013)

<sup>9</sup> The Driver Training Certificate shall be as specified in the Carriage of Dangerous Goods by Road and Use of Transportable Pressure Equipment Regulations 2011. (SI 349 of 2011) and SI 238 of 2013.



- c) Port Emergency Management Plan<sup>10</sup>. The Port Company shall have an Emergency Management Plan to provide emergency control structure and directions for the Dublin Port Company Emergency Management Team. This plan shall include a fire/explosion scenario involving Class 1 Goods on board vessel or at the designated berths.
- d) Emergency Procedures for the terminal or berth, developed in conjunction with the Company and the emergency services, shall be in place before any explosives are handled.
- e) A Traffic Management Plan for the terminal or berth shall be in place for road vehicles carrying explosives. This plan shall be prepared by the operator or tenant and approved by the Harbour Master.
- f) All Terminal Operators and tenants must have a Company approved Dangerous Goods Emergency Response plan. The plan must address, as a minimum, the handling of explosives at designated berths to include explosive and fire incidents, evacuation, emergency access and emergency information (as outlined in UK HSE Information Sheet Doc 3 – Explosives Aspects of Port Emergency Plans – See Schedule 4). The plans must be reviewed annually and are subject to inspection by the Company.
- g) All Terminal Operators and tenants must carry out an annual exercise of their emergency response plan.
- h) All Terminal Operators and tenants handling or storing dangerous goods are subject to an annual inspection by the Company inclusive of a) –h).

#### **14. Directions of Harbour Master**

- a) A person shall not deposit or organise the bringing into the Port, Class 1 dangerous goods for import or export by sea, except in accordance with the express prior approval of the Harbour Master. Such persons shall comply fully with the instructions as to where and when such goods may be located, handled or loaded/unloaded.
- b) Loading or unloading of explosives onto or from a ship at the designated berth shall not be carried on between sunset and sunrise unless the Harbour Master has given his or her prior consent in writing to such loading or unloading.
- c) The Harbour Master shall allocate a designated berth in accordance with the conditions specified in Schedule 3 & 4 for such loading unloading or handling, taking into account the quantity and type of explosives concerned.
- d) The Harbour Master shall ensure that the designated berths shall not be used for the purpose of the loading or unloading of explosives onto or from ships for more than an aggregate of 50 days in any given year.

#### **15. Facilities to be given to Company Officers**

All persons using the Port shall afford every reasonable facility to any authorised officer or representative of Company to ascertain that these bye-laws are being complied with.

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<sup>10</sup> Refers to Dublin Port Company's Emergency Management Plan Annex A-14 '*Incident involving transportation and Storage of Dangerous Goods*'

## Part III - Loading Unloading and Handling

### **16. Maximum Quantity allowed in the Port**

No explosives may enter the port, be loaded or unloaded except with the approval of the Harbour Master and subject to the explosive limits Schedule 3 and limiting distances to be maintained as set out in Schedule 4.

### **17. Maximum Duration of Class 1 goods allowed at the Port**

See Byelaw 11 on Removal from Port.

### **18. Maximum Quantities on Board Vessels and on Vehicles at Certain Berths**

- a) No person shall load, unload, tranship or handle Class 1 dangerous goods at any place in the Port other than at designated berths specified by the Harbour Master. No Class 1 dangerous goods shall be deposited in any shed, warehouse, building or other place.
- b) The Explosives Officer (as per Section 20) and the person in charge of vehicles transporting Class 1 Dangerous Goods shall ensure that the quantity limits specified at Schedule 3 & 4 are not exceeded either in specific hazard Class 1 Divisions or in total Class 1 quantities.
- c) Subject to subparagraph d) below, the quantity of explosives whether at the designated berth or a ship at the designated berth or both, shall not exceed that specified (for the Division of explosives concerned) in Schedule 3 & 4, attached hereto. The conditions stipulated in the Schedule must be observed.
- d) Where explosives at the designated berth or a vessel at the designated berth or both, include explosives in Group A, B or F (see Schedule 2 of these bye-laws), the aggregate quantity of the explosives shall not exceed one-third of the quantity specified in Schedule 3 & 4, unless the explosives in each of the Groups (listed at Schedule 2) concerned are separated from any other explosives at the designated berth or a ship at the designated berth or both, so as to prevent the communication of an explosion to those other explosives.
- e) Where explosives in different Divisions are at the designated berth or on a ship at the designated berth, then:-
  - i) for the purpose of applying Schedule 3 & 4 and subject to subparagraph ii), below, the explosives, shall be deemed to be in the Division amongst them which comes highest in the following list, i.e. Division 1.1 (highest), 1.2, 1.3, 1.5, 1.6 and 1.4 (lowest), and
  - ii) if the explosives consist of explosives in Division 1.5 and explosives in Division 1.2 or 1.6, all the explosives shall be deemed to be in Division 1.1.
- f) Explosives shall not be kept at the designated berth for a time longer than is reasonably necessary for loading them onto a ship or vehicle.

- g) Persons engaged in the carriage to or from the designated berth or the loading or unloading onto or from a ship of explosives shall act with all reasonable expedition.

#### **19. Supervision of Loading and Unloading**

The loading/unloading shall be supervised by competent persons; –

- i. on-board; person nominated by the Master and
- ii. ashore; the Explosives Officer.

#### **20. Appointment of Explosives Officer**

- a) Where Class 1 dangerous goods are being loaded to or unloaded from a vessel within the limits of the port, the Terminal Operator shall appoint a named competent person<sup>11</sup> to supervise the loading or unloading operations. This person shall be known as the “Explosives Officer” for the purpose of these Bye-laws.
- b) The Explosives Officer supervising such loading and unloading shall be familiar with the IMDG code and ADR requirements for Class 1 dangerous goods.
- c) No person shall load, unload or handle Class 1 goods unless an Explosives Officer is appointed and present.
- d) No person shall bring explosives within the limits of the Harbour unless and until there shall be appointed an Explosive Officer in respect of that explosive.

#### **21. Duties of the Explosives Officer**

- a) The Explosive Officer shall be accountable to the Terminal Operator and shall report to them through the Cargo Interest or Port Tenant.
- b) The Explosives Officer, prior to commencing the operation, shall be aware of:-
  - i) his /her responsibilities under these bye-laws, The Explosives Act of 1875, and other applicable legislation and the requirements of the ADR and IMDG codes.
  - ii) the risks associated with the specific Class 1 dangerous goods being loaded/unloaded.
  - iii) The specialist advisor contact details appointed by the Cargo Interest under Byelaw 13 (a).
  - iv) the facilities available to call on the emergency response services, including Fire Service, Garda Síochána, contracted chemical response team, and the Port Operations Centre.
  - v) the need to respond appropriately on him/her becoming aware of any loss, escape, deficiency or flaw of Class 1 dangerous goods or non-compliance with legislation. The response if it affects safety of personnel shall include halting the operation until such time as adequate and appropriate safety or security measures have been put in place.

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<sup>11</sup> See definition of Competent Person at Section 2 of these bye-laws.

- c) It shall be the duty of the explosives officer –
- i) prior to commencement of the loading/unloading, to ensure that all staff engaged in the handling of Class 1 dangerous goods receive information about the presence of Class 1 dangerous goods, hazards inherent in the goods and applicable safety precautions to be taken.
  - ii) to ensure that personnel will be provided with appropriate protective clothing and equipment and that these are properly used as appropriate.
  - iii) to supervise generally the handling (including the loading and unloading onto and from ships and vehicles) and the transport of explosives at the designated berth,
  - iv) to ensure generally the safety and security, as respects explosives, of persons and property at or near the designated berth,
  - v) to ensure that explosives being held or transported as aforesaid are secure from loss or theft,
  - vi) to ensure compliance with the designated berth explosive limits and minimum separation distances.
  - vii) to ensure that the handling (including the loading and unloading onto and from ships and vehicles) shall only take place with the express permission of the Harbour Master.
  - viii) to ensure a Garda presence before explosives are unloaded (where requested by An Garda Síochána upon notification).
  - ix) to ensure that a protected area on the designated berth is free from rubbish or waste or flammable materials.
  - x) to ensure that all personnel not essential to the loading/unloading of explosives shall be excluded from the protected area of the berth where explosives are being handled while the explosives are being loaded/unloaded from the vessel and/or vehicle.
  - xi) to ensure that no explosives cargoes shall be handled during thunderstorms nor should unprotected cargoes which react dangerously or deteriorate when in contact with water, be handled during rain.
  - xii) to ensure that the handling of explosives, once commenced, shall proceed without delay or interruption, except during an electrical storm. Operations shall be suspended during the storm and not resumed until it has passed.
  - xiii) to ensure that records are kept of all explosives loaded or unloaded and of vehicles involved and that such records are handed to the Cargo Interests for safekeeping on completion.
  - xiv) The Explosives Officer is responsible for ensuring that there are no intoxicated persons (as defined in section 23) in the vicinity of the cargo operations.
- d) The Explosives Officer may give directions for the purposes of these bye-laws to any person loading, unloading, handling or transporting the explosives.

- e) The Explosives Officer shall ensure that the minimum number of vehicles required for the efficient loading or unloading of explosives onto or from a ship are present on the designated berth at the same time.
- f) Notwithstanding anything contained in these Bye-Laws, the Statutory Instruments relating to Explosives shall apply. Where there has been a breach/or departure from any of the Statutory Provision, it shall be the duty of the Explosive Officer to inform the Harbour Master.

## **22. Duties of Persons handling explosives**

- a) Explosives shall be handled in a safe, efficient and secure manner.
- b) No person shall throw down or roughly handle any explosive or package containing explosives.
- c) A person handling explosives at the designated berth shall take reasonable precautions to secure the explosives against loss or theft and shall comply with any directions given to him or her for that purpose by the explosives officer, or Garda.
- d) Loss or Theft of Explosives Where explosives on a ship or at the designated berth fall into the dock water or are lost, or are suspected of having been stolen, the person discovering the event or loss or theft shall forthwith –
  - i) Cease loading / unloading operations immediately.
  - ii) report the occurrence to the Master of the Ship and Explosives Officer, who shall in turn report the occurrence without delay to the Harbour Master, and the Garda Síochána
  - iii) take such steps subject to the directions of the Gardaí, Harbour Master and Explosives Officer, as are reasonably practicable to recover the explosives.

## **23. Intoxicated Persons**

No person under the influence of alcohol or drugs shall be allowed engage in any activities involving Class 1 dangerous goods within the Port area. All employees, if reasonably required by his or her employer, shall submit to any appropriate, reasonable and proportionate tests for intoxicants by, or under the supervision of, a registered medical practitioner who is a competent person, as may be prescribed, under Section 13 (1) (c) of the Safety, Health and Welfare at Work Act 2005.

## **24. Duties of Master of Vessel**

- a) The Master of a ship at the designated berth shall ensure that –
  - i) a competent person is present at all times when a magazine, hold or compartment of, or other place in, the ship containing explosives is open,
  - ii) only persons whose duties so require are permitted access to such a magazine, hold, compartment or other place,
  - iii) such magazine, hold, compartment or other place is secured against unauthorised entry at all times,
  - iv) a record is kept of explosives loaded or unloaded onto or from the ship,

- v) packages containing explosives are not opened on board the ship, except in case of necessity,
  - vi) such a magazine, hold, compartment or other place is not opened except for the purpose of loading or unloading explosives onto or from the ship or for any other essential purpose.<sup>12</sup>
  - vii) a safe deck watch and a safe engine watch<sup>13</sup> are maintained at all times. The master should ensure that at all times there are sufficient crew available to operate the appropriate shipboard appliances in the case of an emergency.
  - viii) full account is taken of the nature, quantity, packing and stowage of the explosives and of any special conditions required.
  - ix) the vessel hold, gangways, and decks shall be free from combustible materials prior to and after loading/unloading.
  - x) the vessel's engines and ancillary equipment shall be kept ready at all times, so that the vessel can leave the berth at short notice.
  - xi) The Master is responsible for ensuring that there are no intoxicated persons (as defined in section 23) in the vicinity of the cargo operations.
- b) The Master of a vessel carrying packaged Class 1 dangerous goods must keep a manifest or a special list stipulating all Class 1 dangerous goods on board and their location on board in accordance with IMDG Code requirements. This list or manifest may be substituted by a detailed stowage plan identifying the location of the Class 1 dangerous goods. A copy of these documents must be kept in the dedicated, marked, water-tight fire control plan enclosure required by Chapter II-2, regulation 20.2 of the International Convention for the Safety of Life at Sea (SOLAS).
  - c) The Master of vessels loading/unloading dangerous goods shall provide a full listing of Class 1 dangerous goods quantities, classes and stowage location – together with the required transport documents and all appropriate Safety Data Sheets to the responsible Duty Officer of the vessel.
  - d) Unless exempted in writing by the Company, the Master of every vessel shall ensure that such vessel when in the Port, shall maintain an adequate watch and, in the event of any danger, accident disturbance or fire, that such watch shall immediately give an alarm and notify VTS Dublin on VHF Channel 12.

## **25. Duties of Persons in charge of Vehicles or Mechanical Handling Equipment (MHE)**

- a) No person shall bring Explosives to the designated berth for loading onto a ship unless the ship is prepared and ready for such loading, and shall not unload from a ship at the designated berth unless they are unloaded onto a vehicle and the vehicle is prepared and ready for such unloading.
- b) Where any such loading or unloading has commenced, it shall proceed with due diligence.

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<sup>12</sup> IMO Maritime Safety Committee, "Recommendations on the safe transport of dangerous cargoes and related activities in port areas". MSC.1 / Circ. 1216 of February 2007, Sections 7.2.2.1 and 7.2.2.2.

<sup>13</sup> Section 7.2.2 of the IMO Maritime Safety Committee, "Recommendations on the safe transport of dangerous cargoes and related activities in port areas". MSC.1 / Circ. 1216 of February 2007.

- c) The driver or other person in charge of any vehicle or MHE arriving at or departing from the designated berth for the purpose of loading or unloading explosives shall comply with the directions of the Explosives Officer.
- d) The driver or other person in charge of any vehicle in which explosives are to be conveyed to or from the designated berth shall ensure that the floor and interior thereof are maintained in a clean condition.
- e) Road vehicles carrying explosives shall be at least 50 meters apart while waiting to load a ship and/or leaving the port area.
- f) Any person in charge of any plant, machinery, equipment or appliance situated on Company property and used for the purpose of loading, unloading or handling goods or for any other purpose connected with Port operations shall remove that plant, machinery, equipment or appliance from that property upon order of the Company.
- g) No person shall operate any plant, machinery, equipment or appliance without such safety devices as may be required by law or by the Company.
- h) Except with written permission of the Company, no person shall locate in or about any building on Company property any plant, machinery, equipment or appliance used for the purpose of loading, unloading or handling goods unless that plant, machinery, equipment or appliance is in actual operation for that purpose.
- i) Prior to commencement of cargo handling operations involving Class 1 dangerous goods, the Explosives Officer supervising these activities shall ensure that all staff engaged in the handling of Class 1 dangerous goods receive information about the presence of Class 1 dangerous goods, hazards inherent in the goods and applicable safety precautions to be taken. This applies also to the handling of other cargoes which may get into contact with Class 1 dangerous goods remaining on board (i.e., in transit). The responsible person must ensure that personnel will be provided with appropriate and suitable protective clothing and equipment and that these are properly used.

## **26. Protected Area Notices**

- a) When a ship carrying explosives or is to be loaded with explosives at the designated berth, docks at the designated berth -
  - i) the Explosives Officer shall indicate, by means of notices, the protected area on the designated berth, and
  - ii) the Master of the ship shall indicate the protected area on the ship.
- b) During any period in which explosives are being handled on the designated berth or a ship at the designated berth, notices shall be displayed stating that -

Example Notice:

<p style="text-align: center;"><b><u>Notice - This is a Protected Area</u></b></p> <p><b>Entry by persons or vehicles into this area is prohibited except for persons and vehicles authorised by the Explosives Officer.</b></p> <p><b>Smoking or any exposed flame in this area is prohibited. A person shall not bring matches, cigarette lighter, or unapproved flame into this area.</b></p> <p><b>Appropriate PPE as advised by the Explosives Officer to be worn by all personnel.</b></p> <p><b>Footwear with metal nails, metal heels, or metal tips of any kind, shall not be worn by a person in or near this area.</b></p> <p><b>Persons in contravention of this Notice are in breach of Dublin Port Company Dangerous Goods Cargoes (Class 1) Bye-laws 2015 and will be prosecuted.</b></p> <p style="text-align: right;"><b>Signed by Designated Explosives Officer.</b></p>
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c) Duties of Persons in relation to Notices

- i) A person shall not smoke or display a naked flame in a protected area.
- ii) A person shall not bring into a protected area, matches, cigarette lighter, or an unapproved torch.
- iii) Unauthorised persons shall not enter or bring a vehicle into a protected area. Whilst this byelaw does not apply to a Customs Officer, Explosives Inspector or Garda, they should be guided by the Explosives Officer.

**27. Loss or escape of Class 1 dangerous goods**

- a) The Explosives Officer responsible for handling and transport of Class 1 dangerous goods shall ensure, before commencement of cargo handling operation involving Class 1 dangerous goods, that all staff engaged in the operation receive information about the presence of Class 1 dangerous goods, hazards inherent in the goods and applicable safety precautions to be taken in the event of a leakage or spillage or other loss of Class 1 dangerous goods. The relevant Safety Data Sheet (SDS) for each Class 1 dangerous good and the "Instructions in Writing" shall be available within reasonable proximity to all operations. The Explosives Office (person in charge) shall take the following general actions on becoming aware of such loss:-
  - i) Cease operations immediately.
  - ii) inform VTS Dublin VHF Ch. 12
  - iii) inform the Harbour Master
  - iv) inform the Port Operations Centre, Control Room at telephone 01 – 887 6858 or 01 – 887 6859.



- v) inform the Emergency Services (Fire, Ambulance, Gardaí).
  - vi) if safe to do so the Explosives Officer may deploy containment measures strictly in accordance with the SDS and “Instructions in Writing” – if in doubt merely raise the alarm and take measures to prevent Class 1 dangerous goods entering any drains or the dock water.
- b) No person shall open or otherwise interfere with seals, valves, covers or caps on Class 1 dangerous goods packaging, containers or receptacles without express approval from the Harbour Master.
- c) Where a package or container containing explosives breaks open or explosives escape from their package or container at the designated berth or on a ship at the designated berth, the person discovering the damage or escape shall inform the Explosives Officer who shall inform the Harbour Master immediately.
- d) the explosives officer shall –
- i) ensure that all persons at the designated berth and not required there for safety purposes, are evacuated from the designated berth or place,
  - ii) collect and repack or dispose of the explosives, in accordance with best current practice,
  - iii) if he considers it necessary to do so, consult with such persons as are immediately available and he considers appropriate,
  - iv) make a record of any deficiency in the quantity of recovered explosives,
  - v) Consignments of damaged or improper packages must not be moved until examined by the Explosives Officer, who will assess the further transportability of such goods. There shall be no further movement of explosives until these are made safe. If necessary, such consignments must be transported to a special area.

All expenses for examination and transport shall be borne by Cargo Interest having control over the affected consignment (i.e. owner, shipping line, freight forwarder, consignor or consignee, as applicable).

## **28. General Handling and Lifting Precautions**

The Ship’s Agent / Cargo Agent / Terminal Operator must provide any person involved in the handling of Class 1 dangerous goods with suitable induction, information, training and supervision, in accordance with The Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005), referred to here as the “2005 SHWW Act”. Information and training must be appropriate with the risks posed by Class 1 dangerous goods, and the needs of each worker should be determined in the risk assessment process. Every person should be trained to follow systems of work and work practices that enable them to perform their work safely

- a) No person using Mechanical Handling Equipment (MHE) shall damage or roughly handle any explosive or package, pallet or container containing explosives.

- b) All persons working with Class 1 dangerous goods in the Port shall take all due precautions to prevent accidents such as fire, spillage or leakage of Class 1 dangerous goods whilst loading, unloading or moving such goods.
- c) All persons working with Class 1 dangerous goods in the Port shall take all due precautions to prevent damage to tanks, packages or other units carrying Class 1 dangerous goods. This includes damage which does not impair the integrity of the package containment but which may present other hazards such as trips, falls, and impact of protruding sections of such packaging.
- d) No person shall deface, obliterate, over-label or otherwise make illegible any placards, labels, signs or other visual indicators of package or tank contents.
- e) No person shall lift or cause to be lifted, any cargo, goods, or other lifts over any Class 1 dangerous goods.

## Part IV - Fire Precautions and Fire Fighting Equipment

### 29. Duties of Master of Ship

The Master of every vessel carrying Class 1 dangerous goods in the Port shall;

- a) Have adequate fire extinguishing equipment available for immediate use in any part of the vessel at all times, and the nature and amount of such equipment shall take into account any abnormal fire risk associated with any such vessel such as the type and quantities of Class 1 dangerous goods carried.
- b) Before loading or unloading of explosives has begun, and throughout the time that such loading or unloading continues, after consultation where necessary with the Harbour Master, shall ensure that all due precautions are taken to reduce the risk of fire or explosion and that
  - i) adequate and properly tested fire fighting facilities are provided on any ship loading or unloading. This is to include properly tested hoses rigged and ready for use.
  - ii) ready access by the fire services to the ship is available,
  - iii) alarm systems and rapid means of emergency communication are installed and ready
- c) The Master of every vessel in the Port shall ensure that no fire shall be allowed thereon, no hot works carried out or flammable devices or materials used, without prior permission from the Harbour Master.
- d) In the event of a fire occurring at a quay at which a vessel is berthed, or on board any vessel in the Port the Master of such vessel shall contact VTS Dublin on VHF Channel 12.

### 30. Duties of Terminal Operators and Site Tenants handling Class 1 dangerous goods

The Port Company and Terminal Operators shall comply with conditions 7.4.1 through 7.4.8 of the Dublin Port Bye-Laws for Dangerous Goods (Cargoes), 2014.

Terminal Operators shall ensure that;

- i) sufficient fire extinguishing equipment, of a type suitable for coping with Class 1 fires are available whilst Class 1 dangerous goods are on Tenant property or are being loaded, unloaded or handled in the Port. This equipment shall be provided to the Explosives Officer and shall be maintained ready for immediate use.
- ii) fire equipment at the designated berth shall be clearly marked and shall be so positioned as to ensure that vehicles or cargo parked or stored on the designated berth do not cover, conceal or impede access to the fire equipment.
- iii) vehicles, including MHE, on the designated berth shall be equipped with a fire extinguisher of a type and size suitable for extinguishing any fire in the vehicle other than a fire involving explosives or likely to involve explosives.

- iv) in the event of fire at or in the vicinity of the designated berth or a ship at or in the vicinity of the designated berth, they notify Dublin Fire Brigade and the Company (01 – 8876858) or VTS Channel 12.
- v) in case of emergency, the Terminal Operator shall hand over to Dublin City Fire brigade a print out of all stored consignments of dangerous goods on the tenant's facility.
- vi) the Chief Fire Officer is consulted to ensure that the measures and equipment proposed to be employed at the designated berth to prevent, control and extinguish fires are adequate and appropriate.
- vii) all persons designated to use the Fire Fighting Equipment at the designated Berth are aware of the location of the equipment and method of operation.

### **31. Duties of the Explosives Officer**

Without prejudice to the generality of above, the Explosives Officer, in consultation with the Master of the Ship and the Terminal Operator shall ensure –

- i) that adequate and properly tested fire fighting equipment is available at the designated berth during loading/unloading of explosives,
- ii) that all persons designated to use the Fire Fighting Equipment at the designated Berth are aware of the location of the equipment and method of operation,
- iii) that, in the event of a fire at the designated berth, persons not required for fire fighting or safety purposes are evacuated from the designated berth to a safe distance in accordance with the emergency plans.

### **32. Duties of Cargo Interests [as Employers] relating to Fire risk and prevention**

- a) Each employer (Terminal Operator) in Dublin Port shall carry out all duties relating to fire as specified in;
  - i) The Safety, Health and Welfare at Work (General Application) Regulations 2007 (S.I. No. 299 of 2007) as amended, relating to the workplace.
  - ii) The Fire Services Acts 1981 and 2003 (No. 30 of 1981 and No.15 of 2003) as amended.
- b) These duties shall include
  - i) Carrying out Fire Risk Assessment
  - ii) Ensuring adequate emergency exits and evacuation,
  - iii) Ensuring fire fighting, detection and alarm systems are adequate and fit for purpose.

### **33. Class 1 dangerous goods for which water is not a suitable extinguishing agent**

- a) Compatibility Group L is explosive substances or articles containing an explosive substance and presenting a special risk (such as due to water-activation or presence of hypergolic liquids, phosphides or a pyrophoric substance) and needing isolation of each type, examples are 1.1L, 1.2L or 1.3L.
- b) Class 1 dangerous goods of Compatibility Group L shall not be extinguished with water. The Explosives Officer as the person in charge of loading/unloading shall have a copy of the specific Safety Data Sheet (SDS) at hand – this SDS will provide detailed fire-fighting and spill containment

and clean-up procedures. The Explosives Officer shall ensure that the Master of the vessel and the Harbour Master are fully notified of the risks and precautions, including notification to the Fire Brigade to be on stand-by during such operations.

- c) Explosives in Compatibility Group L shall not be handled in a port area unless the special permission of the Harbour Master has been obtained and any special precautions, required by the Company, have been taken.

#### **34. Fire hydrants to be used for fire-fighting only**

No person shall use a fire hydrant located on Company property for any purpose other than fire or fire drill without permission of the Company and then only in accordance with the terms of such permission. This is to ensure that Hydrants are kept available for emergency use. Hydrants shall not be used on fires for which water is not a suitable extinguishing agent. The Explosives Officer will give this instruction prior to any such loading/unloading operations.

#### **35. Fire Precautions**

- a) Persons at the designated berth shall -
  - i) take all reasonable precautions to prevent fire at the designated berth,
  - ii) in the event of Fire, raise the alarm immediately by calling Fire Brigade, Gardaí and Harbour Master,
  - iii) take such immediate measures as are open to the person to fight, control and extinguish any fire at the designated berth, in accordance with the emergency plans, and only where safe to do so and,
  - iv) obey any directions of the Explosives Officer, Harbour Master, or of a member of Fire Brigade in relation to a fire at the designated berth and provide all such assistance in fighting the fire as is reasonable in the particular circumstances.

#### **36. Hot Work - Use of drilling, grinding, welding and burning equipment in the Port – on board vessels or on shore**

- a) No Person shall carry out hot work (i.e. use of any drilling, cutting, grinding, welding or burning equipment likely to cause sparks, heat or flame) at, in, or near a vessel or vehicle containing Class 1 dangerous goods.
- b) No person may use any drilling, grinding, welding or burning equipment in the Port, nor in any vessel berthed at the Port, except with written permission of the Company and in accordance with the Port Byelaws Hot Work requirements

#### **37. No article or substance to be burned, boiled etc. without permission**

No person shall burn, boil or heat by fire any article or substance on Company property except with permission of the Company and in such place and in such manner as the Company directs.

**38. Smoking Prohibitions**

- c) Smoking in the work place is prohibited<sup>14</sup> under Irish Law and the use of fire and open lights are prohibited in all areas with the exception of Company approved zones.
- d) No person may smoke or use matches or cigarette lighters in areas at or near designated berths during loading unloading or handling Class 1 dangerous goods-
- e) Vessels carrying or handling Class 1 dangerous goods must display, at their place(s) of access, a warning sign with the wording:-

**“SMOKING PROHIBITED”**

- f) The carriage and use of matches and cigarette lighters outside the approved smoking huts and vessel accommodation is prohibited.

**39. Vessels containing or handling Class 1 dangerous goods to display notices**

- a) The Master of every vessel loading, unloading or having on board Class 1 dangerous goods (including highly flammable goods) in the Port shall display “Explosives” and/or “No Smoking” signs as relevant in prominent positions on the vessel.
- b) The vessel shall display Flag B (Red flag) by day. In the hours of darkness all such vessels shall display an all-round red light in a prominent location. In the event that this provision cannot be fully met – the Master shall display these signals at a location determined by the Harbour Master.

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<sup>14</sup> The Tobacco Smoking (Prohibition) Regulations 2003.

## Part V - Transport Requirements

### 40. Shipping Requirements - Mass and Volume

The Master of any vessel shall ensure that the quantity of Class 1 dangerous goods carried, or to be carried in the vessel shall not exceed any weight limits set out in the IMDG Code.

### 41. Shipping Requirements - Markings and Labels

The shipper/consignor of Class 1 dangerous goods shall ensure that all packaging, freight containers, portable tanks, unit loads and large packaging containing Class 1 dangerous goods to be brought into the area covered by these Port Bye-Laws must be marked, labeled and placarded in accordance with the requirements of the ADR and IMDG Codes.

### 42. Training of Drivers carrying Class 1 dangerous goods

- a) Each person driving a vehicle carrying Class 1 dangerous goods shall be in possession of a valid driver training certificate issued by the competent authority.
- b) Irish Defence Force Vehicle drivers are exempt from these provisions

### 43. Unattended Vehicles carrying Class 1 dangerous goods

Vehicles loaded with Class 1 dangerous goods may not be left unattended in the Port area.

### 44. Overnight Parking of Vehicles carrying Class 1 dangerous goods

Class 1 dangerous goods vehicles shall not be parked up or stored on the Port overnight

### 45. Weather Precautions

Subject to the direction of the Harbour Master, the Masters of vessels carrying Class 1 dangerous goods shall not authorise the loading/unloading of these goods in weather conditions which are likely to increase the risks of loading/unloading. Operational limitations for each terminal crane or lifting equipment shall be adhered to.

### 46. Management of Vessels

The vessel's Master shall ensure that there are sufficient and appropriately trained personnel on board at all times whilst carrying, loading or unloading Class 1 dangerous goods, such that all equipment and safety devices for the safe handling of Class 1 dangerous goods is maintained.

**47. Distance between Vessels**

- a) The Master of a vessel carrying Class 1 dangerous goods shall ensure that when his vessel is at berths specified, it maintains the specified separation distances at Schedule 4 from passenger ships.
- b) The Master of a vessel carrying Class 1 dangerous goods shall ensure that when his vessel is at berths specified, it maintains the specified separation distances at Schedule 4 from tankers or other vessels carrying Class 1 dangerous goods.
- c) In cases where more than one Hazard Division of Class 1 dangerous goods are carried in a vessel, the separation distance shall be that for the most stringent or greatest distance specified at Schedule 4.
- d) The separation distances specified at Schedule 4 shall not prohibit a Master of a vessel carrying Class 1 goods from moving or manoeuvring in the Port.

**48. Explosives sensitive to Electro Magnetic Radiation**

In this Bye-law "Electro Explosive Device" (EED) - means a one-shot explosive or pyrotechnic device caused to function by the application of electrical energy (for example electric detonators).

- a) A person shall not bring an EED onto the designated berth unless he or she has the approval of the Harbour Master and Explosives Officer, and unless it is so constructed and packed as to be safe for carriage, that is to say, safe in a field of
  - i) 100 watts per square metre at all frequencies; or
  - ii) 10 watts per square metre for frequencies between 30 megahertz and 790 megahertz and in a field of 100 watts per square metre outside those frequencies.
- b) Save in emergency, during loading or unloading of cargoes of EED explosives, the following radio or radar transmitting devices are not to be used
  - i) Radio waves using continuous or keyed carrier wave where the output used for transmission exceeds 50 watts;
  - ii) Metric Wave radar transmitters
  - iii) Centimetric radar transmitters where any part of their aerial system is within 30 metres of the explosives.
- c) no radio or radar transmitters shall be used (save during an emergency), on the ship, in cranes or elsewhere in the vicinity, except intrinsically safe units and no part of their aerial systems passes within the minimum safe distance of 2 metres from the explosives.
- d) Intrinsically safe electric lights, are the only form of artificial lighting permitted during cargo operations involving Class 1 dangerous goods of class 1 (requirements for electrical equipment and cables are set out in chapter 7.1 of the IMDG Code).



## **Part VI – Handling/Loading/Unloading of Deemed Explosives & Controlled Substances**

### **49. Handling, loading or unloading of deemed Explosives and or Controlled substances**

1) No person shall handle, load or unload

a) A deemed substance specified in the:

- i) Schedule to the Explosives (Ammonium Nitrate and Sodium Chlorate) Order 1972 (S.I. No. 191 of 1972), or
- 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), or

b) A controlled substance specified in the Stores for Explosives Order 2007 (S.I. 804 of 2007);

at a designated berth or handling area within the jurisdiction of the port company, except in accordance with the Dublin Port Byelaws Dangerous Goods (Cargoes) 2014, as amended.

**50. Ministers Sanction**

**Dublin Port Company Dangerous Cargo (Class 1) Bye-Laws 2015**

**In accordance with Section 34 of the Explosives Act 1875, the  
Minister for Justice and Equality hereby sanctions the making of  
these Bye-laws.**

**GIVEN under the Official Seal of the Minister,**

this 3 day of June, 2015.

*Frances Fitzgerald*

**FRANCES FITZGERALD**

**Minister for Justice and Equality**

064719

**Schedule 1 – Divisions of Class 1**

**Definition of divisions**

Division 1.1 Substances and articles which have a mass explosion hazard (a mass explosion is an explosion which affects almost the entire load virtually instantaneously).

Division 1.2 Substances and articles which have a projection hazard but not a mass explosion hazard.

Division 1.3 Substances and articles which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard:

- (a) combustion of which gives rise to considerable radiant heat; or
- (b) which burn one after another, producing minor blast or projection effects or both.

Division 1.4 Substances and articles which present only a slight risk of explosion in the event of ignition or initiation during carriage. The effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire shall not cause virtually instantaneous explosion of almost the entire contents of the package.

Division 1.5 Very insensitive substances having a mass explosion hazard which are so insensitive that there is very little probability of initiation or of transition from burning to detonation under normal conditions of carriage. As a minimum requirement they must not explode in the external fire test.

Division 1.6 Extremely insensitive articles which do not have a mass explosion hazard. The articles contain only extremely insensitive detonating substances and demonstrate a negligible probability of accidental initiation or propagation.

NOTE: The risk from articles of Division 1.6 is limited to the explosion of a single article.

**Schedule 2 - The Groups**

**Definition of compatibility groups of substances and articles**

- A Primary explosive substance.
- B Article containing a primary explosive substance and not having two or more effective protective features. Some articles, such as detonators for blasting, detonator assemblies for blasting and primers, cap-type, are included, even though they do not contain primary explosives.
- C Propellant explosive substance or other deflagrating explosive substance or article containing such explosive substance.
- D Secondary detonating explosive substance or black powder or article containing a secondary detonating explosive substance, in each case without means of initiation and without a propelling charge, or article containing a primary explosive substance and having two or more effective protective features.
- E Article containing a secondary detonating explosive substance, without means of initiation, with a propelling charge (other than one containing a flammable liquid or gel or hypergolic liquids).
- F Article containing a secondary detonating explosive substance with its own means of initiation, with a propelling charge (other than one containing a flammable liquid or gel or hypergolic liquids) or without a propelling charge.
- G Pyrotechnic substance, or article containing a pyrotechnic substance, or article containing both an explosive substance and an illuminating, incendiary, tear- or smoke-producing substance (other than a water-activated article or one which contains white phosphorus, phosphides, a pyrophoric substance, a flammable liquid or gel or hypergolic liquids).
- H Article containing both an explosive substance and white phosphorus.
- J Article containing both an explosive substance and a flammable liquid or gel.
- K Article containing both an explosive substance and a toxic chemical agent.
- L Explosive substance or article containing an explosive substance and presenting a special risk (e.g. due to water activation or the presence of hypergolic liquids, phosphides or a pyrophoric substance) necessitating isolation of each type.

- N Articles containing only extremely insensitive detonating substances.
- S Substance or article so packed or designed that any hazardous effects arising from accidental functioning are confined within the package unless the package has been degraded by fire, in which case all blast or projection effects are limited to the extent that they do not significantly hinder or prevent fire-fighting or other emergency response efforts in the immediate vicinity of the package.

NOTE 1: Each substance or article, packed in a specified packaging, may be assigned to one compatibility group only. Since the criterion of compatibility group S is empirical, assignment to this group is necessarily linked to the tests for assignment of a classification code.

NOTE 2: Articles of compatibility groups D and E may be fitted or packed together with their own means of initiation provided that such means have at least two effective protective features designed to prevent an explosion in the event of accidental functioning of the means of initiation. Such packages shall be assigned to compatibility groups D or E.

NOTE 3: Articles of compatibility groups D and E may be packed together with their own means of initiation, which do not have two effective protective features (i.e. means of initiation assigned to compatibility group B), provided that they comply with mixed packing provision MP 21 of Section 4.1.10. Such packages shall be assigned to compatibility groups D or E.

NOTE 4: Articles may be fitted or packed together with their own means of ignition provided that the means of ignition cannot function during normal conditions of carriage.

NOTE 5: Articles of compatibility groups C, D and E may be packed together. Such packages shall be assigned to compatibility group E.

**Schedule 3 – Explosives Quantity Limits**

**SPECIAL CONDITIONS APPLYING TO**  
**DESIGNATED BERTHS AT DUBLIN PORT**

- 1 The following maximum explosive limits (Table 1) apply in and around the designated berths. The limit is an aggregate of what is permitted on the vessel, the dock and any associated vehicle or Mechanical Handling Equipment loading or unloading at that berth.

**Schedule 3- Table 1 - Explosive Limits - Dublin Port**

Designated Berth	Maximum limit of explosives permitted (kg)			
	Hazard Division			
	1.1 or 1.5	1.2 or 1.6	1.3	1.4
31	700	700	6,000	Unlimited
32	250	250	800	Unlimited
33	1,400	1,400	22,000	Unlimited
34	1,400	1,400	22,000	Unlimited
35	2,600	2,500	65,000	Unlimited
36/37	1,100	1,100	12,000	Unlimited
38	250	250	800	Unlimited
39	1,600	1,600	30,000	Unlimited
40	850	850	8,000	Unlimited
42	850	850	8,000	Unlimited
43	1,750	1,750	30,000	Unlimited
44	2,900	2,900	65,000	Unlimited
45	2,600	2,600	65,000	Unlimited
49	45	45	45	Unlimited
50N	1,750	1,750	30,000	Unlimited
50S	1,675	1,675	30,000	Unlimited
50A	825	825	8,000	Unlimited
52	700	700	6,000	Unlimited
53	1,250	1250	17000	Unlimited

2. Limiting Distances - Dublin Port

The following minimum limiting distances (refer to Schedule 4, Tables 2 A, 2B and 2 C), must be kept from the designated berth to the facilities and vulnerable sites listed.

3. Any facility or building within the limiting distance specified in the Tables of Limiting distances must be vacated during loading, unloading or handling of explosives, otherwise the levels of protection inherent in the explosive limits will be invalidated.

4. No ship, other than the explosives ship, may be present at the designated berth during loading, unloading or handling of explosives.
5. No fertilizer, oxidizer or flammable material may be stored or handled on the designated or adjacent berth while a ship containing explosives is at the berth.

**Schedule 4 - Table 2A****Table of Limiting Distances Berths 31-39**

Designated Berth -		31	32	33	34	35	36/37	38	39
Explosive Limit (kg)		700	250	1400	1400	2600	1100	250	1600
Facility		Limiting Distance to be maintained to Facility from Berth (m)							
1	Schools, hospitals, institutions, places of worship, leisure facilities or places where public congregate	119	60	185	185	265	159	60	201
2	Buildings of vulnerable construction ( 3 Storeys or more in height with extensive glass/light cladding)	179	91	278	278	397	239	91	301
3	Residential property (normal density) Conventional brick/block houses	89	45	139	139	198	120	45	151
4	Public Houses	89	45	139	139	198	120	45	151
5	Factories Dock Using dock shipping regularly (<50 pers)	89	45	139	139	198	120	45	151
6	Factories Non Dock	119	60	185	185	265	159	60	201
7	Refineries (other than storage)	119	60	185	185	265	159	60	201
8	Petrol/Oil/Gas Bulk Storage If fully banded to 110% volume	45	23	69	69	99	60	23	75
9	Dock canteens/workshops	89	45	139	139	198	120	45	151
10	Dock offices, customs offices etc.	89	45	139	139	198	120	45	151
11	Passenger Terminal, passenger ships embarking/ disembarking	89	45	139	139	198	120	45	151
12	Open areas over which passengers pass during transit to/from ship	45	23	69	69	99	60	23	75
13	Tankers for Petrol/LPG/LNG Unless empty/inerted	89	45	139	139	198	120	45	151



**Schedule 4 - Table 2A (Continued)**

14	Tankers for Petrol/LPG/LNG discharging/loading Unless empty/inerted	119	60	185	185	265	159	60	201
15	Ships - Non dangerous with resident pers on board	60	30	93	93	132	80	30	100
16	Bulk Carriers - dangerous goods	100	100	100	100	100	100	100	100
17	Lock gates vital to port	45	23	69	69	99	60	23	75
18	Transit Sheds - dangerous goods	60	30	93	93	132	80	30	100
19	Transit Sheds - Highly Flam goods	89	45	139	139	198	120	45	151
20	Transit Sheds - Inert Goods (Manned only, otherwise N.A.)	89	45	139	139	198	120	45	151
21	Roads Access and "B" secondary type (1/5000 veh per day)	45	23	69	69	99	60	23	75
22	Roads "A" main type (>5000 veh per day)	60	30	93	93	132	80	30	100
23	Rail mainline (Passenger trains)	45	23	69	69	99	60	23	75
24	Pers in open (Not connected with Expl)	60	30	93	93	132	80	30	100
25	Facilities to be vacated or unused for use of berths and limits specified above.								

**Schedule 4 - Table 2B****Table of Limiting Distances Berths 40-50N**

Designated Berth -		40	42	43	44	45	50S	50A	50N
Explosive Limit (kg)		850	850	1750	2900	2600	1675	825	1750
Facility		Limiting Distance to be maintained to Facility from Berth (m)							
1	Schools, hospitals, institutions, places of worship, leisure facilities or places where public congregate	135	135	212	280	265	206	133	212
2	Buildings of vulnerable construction ( 3 Storeys or more in height with extensive glass/light cladding)	203	203	318	420	397	310	199	318
3	Residential property (normal density) Conventional brick/block houses	101	101	159	210	198	155	99	159
4	Public Houses	101	101	159	210	198	155	99	159
5	Factories Dock Using dock shipping regularly (<50 pers)	101	101	159	210	198	155	99	159
6	Factories Non Dock	135	135	212	280	265	206	133	212
7	Refineries (other than storage)	135	135	212	280	265	206	133	212
8	Petrol/Oil/Gas Bulk Storage If fully bunded to 110% volume	51	51	79	105	99	77	50	79
9	Dock canteens/workshops	101	101	159	210	198	155	99	159
10	Dock offices, customs offices etc.	101	101	159	210	198	155	99	159
11	Passenger Terminal, passenger ships embarking/ disembarking	101	101	159	210	198	155	99	159
12	Open areas over which passengers pass during transit to/from ship	51	51	79	105	99	77	50	79
13	Tankers for Petrol/LPG/LNG Unless empty/inerted	101	101	159	210	198	155	99	159

**Schedule 4 - Table 2B (Continued)**

14	Tankers for Petrol/LPG/LNG discharging/loading Unless empty/inerted	135	135	212	280	265	206	133	212
15	Ships - Non dangerous with resident pers on board	68	68	106	140	132	103	66	106
16	Bulk Carriers - dangerous goods	100	100	100	100	100	100	100	100
17	Lock gates vital to port	51	51	79	105	99	77	50	79
18	Transit Sheds - dangerous goods	68	68	106	140	132	103	66	106
19	Transit Sheds - Highly Flam goods	101	101	159	210	198	155	99	159
20	Transit Sheds - Inert Goods (Manned only, otherwise N.A.)	101	101	159	210	198	155	99	159
21	Roads Access and "B" secondary type (1/5000 veh per day)	51	51	79	105	99	77	50	79
22	Roads "A" main type (>5000 veh per day)	68	68	106	140	132	103	66	106
23	Rail mainline (Passenger trains)	51	51	79	105	99	77	50	79
24	Pers in open (Not connected with Expl)	68	68	106	140	132	103	66	106
25	Facilities to be vacated for use of berths and limits specified above. (Map Ref No)								

**Schedule 4 - Table 2C****Table of Limiting Distances Berths 49, 52 & 53**

Designated Berth -		49	52	53
Explosive Limit (kg)		45	700	1250
Facility		Limiting Distance to be maintained to Facility from Berth (m)		
1	Schools, hospitals, institutions, places of worship, leisure facilities or places where public congregate	19	173	173
2	Buildings of vulnerable construction ( 3 Storeys or more in height with extensive glass/light cladding)	29	259	259
3	Residential property (normal density) Conventional brick/block houses	14	129	129
4	Public Houses	14	129	129
5	Factories Dock Using dock shipping regularly (<50 pers)	14	129	129
6	Factories Non Dock	19	173	173
7	Refineries (other than storage)	19	173	173
8	Petrol/Oil/Gas Bulk Storage If fully banded to 110% volume	7	65	65
9	Dock canteens/workshops	14	129	129
10	Dock offices, customs offices etc.	14	129	129
11	Passenger Terminal, passenger ships embarking/ disembarking	14	129	129
12	Open areas over which passengers pass during transit to/from ship	7	65	65
13	Tankers for Petrol/LPG/LNG Unless empty/inerted	14	129	129
14	Tankers for Petrol/LPG/LNG discharging/loading Unless empty/inerted	19	173	173
15	Ships - Non dangerous with resident pers on board	10	86	86
16	Bulk Carriers - dangerous goods	100	100	100
17	Lock gates vital to port	7	65	65
18	Transit Sheds - dangerous goods	10	86	86
19	Transit Sheds - Highly Flam goods	14	129	129
20	Transit Sheds - Inert Goods (Manned only, otherwise N.A.)	14	129	129
21	Roads Access and "B" secondary type (1/5000 veh per day)	7	65	65
22	Roads "A" main type (>5000 veh per day)	10	86	86
23	Rail mainline (Passenger trains)	7	65	65
24	Pers in open (Not connected with Expl)	10	86	86
25	Facilities to be vacated for use of berths and limits specified above. (Map Ref No)			

## **Schedule 5 - HSE (UK) INFORMATION SHEET – Explosives aspects of port emergency plans**



### **Introduction**

This information sheet is one of a series prepared by HSE's Docks National Interest Group. It supplements the general guidance on emergency arrangements in the Approved Code of Practice and Guide to the Dangerous Substances in Harbour Areas Regulations 1987 (DSHAR); see 'Further information'. It is aimed at harbour authorities who have to prepare emergency plans covering the handling of explosives at places licensed under DSHAR. However, it may also assist berth operators, the emergency services and others who could be involved with such emergencies.

### **Types of explosive**

Explosives are allocated to Class 1 under the United Nations classification scheme for Class 1 dangerous goods. Class 1 is subdivided into six divisions:

- Division 1.1- substances and articles which have a mass explosion hazard;
- Division 1.2- substances and articles which have a projection hazard but not a mass explosion hazard;
- Division 1.3- substances and articles which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard;
- Division 1.4 - substances and articles which present no significant hazard;
- Division 1.5- very insensitive substances which have a mass explosion hazard. For emergency planning purposes they should be treated as Division 1.1 explosives; and
- Division 1.6 - extremely insensitive articles which do not have a mass explosion hazard.

At the time of this information sheet going to print, no explosives have been classified as Division 1.6 in the UK. Should a need to handle explosives of Division 1.6 arise, further advice should be sought from HSE.

### **Explosives incidents**

The emergency plan should cover all foreseeable incidents identified from the risk assessment required by the Management of Health and Safety at Work Regulations 1992. Incidents involving explosives are likely to fall into one of two categories:

- those where the explosives initiate without warning, eg when a load is dropped from a considerable height; or

### **Docks Information Sheet No 3 (Revised)**

- Those where the explosives initiate after becoming involved in another event, such as an adjacent fire.

### **Emergency arrangements**

If an explosion occurs without warning, there is little that can be done to prevent injuries. The emergency plan needs to concentrate on the safe rescue of casualties, the evacuation of the uninjured and on any action which will prevent the incident spreading to other explosives, Class 1 dangerous goods or property. The sudden nature of such incidents underlines the importance of only handling explosives at the places designated in the explosives licence, keeping to the limits specified and minimising the number of people involved.

If explosives are not imminently threatened by another event, it may be possible to prevent them becoming involved, eg by spraying them with water. However, if they are threatened, or have already become involved, the action required will depend on the types and quantities of explosives present. You must obtain this information before explosives are allowed into the harbour or harbour area. If there is any doubt about the type of explosives they should be treated as Division 1.1.

### **Division 1.1 and 1.5 explosives**

The main hazard from Division 1.1 and 1.5 explosives is an explosion affecting virtually the entire load almost instantaneously. The resulting blast will shatter anything close by and severely damage buildings in the surrounding area. The flash and firebrands thrown out may start secondary fires. Apart from those at most risk close to the explosion, people will generally be better off in the open and not in buildings or under structures which might collapse on them. With these types of explosives, rapid evacuation is the primary course of action. The relevant schedule to the explosives licence can be used as a guide to the minimum evacuation distance offering protection. Based on the maximum quantity of explosives liable to be present, everyone should be evacuated to at least the distance shown in the column headed 'Distance to other explosives or persons in the open'. Remember that this distance is the **absolute minimum**.

If time allows, evacuation should continue to as far away as practicable or to the safeguarding distance SD2 given in the schedule. Buildings need to be cleared of people to at least the distance shown in the column headed 'Distance to a passenger vessel' and, if possible, the safeguarding distance SD2. As projectiles are a possibility, assembly points should be on the far sides of buildings to shield people from any explosion. However, the assembly point should not be immediately outside a building because of the risk of flying glass and other debris.

## Division 1.2 explosives

The main hazard from Division 1.2 explosives is missiles; some fast, some lobbed and including firebrands, possibly whole or part sub-munitions, packaging etc. Some may explode on impact. The fragment throw will not necessarily depend on the quantity of explosives involved. There could be secondary fires.

Incidents involving Division 1.2 explosives are characterised by sporadic explosions of individual articles over a prolonged period, possibly several hours. The best protection from this type of explosive is shelter, but it is essential that people stay well clear of windows. People in the open should be evacuated as far as possible, at least 400 m and more if possible. As a guide, the limit of fragment throw may be 1250 m from 5 tonnes (net explosives quantity) and 2000 m from 16 tonnes.

## Division 1.3 and 1.6 explosives

The main hazard from Division 1.3 and 1.6 explosives is intense radiant heat. The explosives are liable to burst into flames, probably violently, without warning. There could be flying firebrands, as well as flame jetting. The best protection is a combination of distance and shelter. If it is not possible to evacuate people to the distance shown in the column headed 'Distance to other explosives or persons in the open' for Division 1.3 explosives in the relevant licence schedule, they should be advised to seek shelter behind buildings wherever possible.

## Division 1.4 explosives

Division 1.4 explosives, if initiated, give rise to a serious, but localised fire. The normal emergency procedures for fires should be adequate for this type of incident.

## Evacuation

Emergency plans need to specify when and how evacuation is organised. They should consider any particularly vulnerable populations nearby, such as schools, hospitals and accommodation for the elderly and infirm. Staged evacuation may be necessary, but where this is likely to be slow or impracticable, alternative measures may be needed. For instance, if a hospital cannot be evacuated, it may be necessary to issue advice to close all curtains and blinds, and to move patients away from windows.

## Access

It is essential to maintain adequate means of escape and access for emergency services whenever explosives are present. While the most likely site of an incident is a licensed berth, an accident could occur to a vehicle, train or vessel going to or from the berth. The emergency plan needs to cover all such foreseeable incidents.

If an incident occurs the emergency plan must be implemented quickly and the emergency services informed of all hazards without delay. The berth operator needs to notify the master of an explosives ship of the emergency arrangements at the berth as soon as is practicable after the ship has berthed. The master must be given written details of the signals to be used in an emergency and how to call the emergency services. Arrangements may be needed to cope with language difficulties.

## Emergency information

The berth operator needs to ensure that information is immediately available to the emergency services on the type, quantity and location of all explosives at a berth. Similar information should also be available on any other Class 1 dangerous goods present.

## Further information

Additional advice and information on the explosives aspects of this guidance may be obtained from HSE's Explosives Inspectorate, St Anne's House, Stanley Precinct, Bootle L20 3RA, telephone 0151 951 4741.

Further information on the other aspects of the emergency plans required by DSHAR is given in *Dangerous Substances in Harbour Areas. Dangerous Substances in Harbour Areas Regulations 1987. Approved Code of Practice COP18* HSE Books 1987 ISBN 0 11 883857 1 and *Guide to the Dangerous Substances in Harbour Areas Regulations 1987* HSR27 HSE Books 1988 ISBN 0 11 883991 8.

HSE priced and free publications are available by mail order from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 6FS. Tel: 01787 881165 Fax: 01787 313995.

HSE priced publications are also available from good booksellers.

For other enquiries ring HSE's Info Line Tel: 0541 545500, or write to HSE's Information Centre, Broad Lane, Sheffield S3 7HQ.

HSE home page on the World Wide Web:  
<http://www.open.gov.uk/hse/hsehome.htm>

This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

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