

**SAFE LOADING AND UNLOADING OF BULK  
CARRIERS 2003**

**IMPLEMENTING**

**EC DIRECTIVE 2001/96/EC**

**(establishing harmonised requirements and procedures for  
the safe loading and unloading of bulk carriers)**

**New provisions apply from 1 March 2004**



**Maritime and Coastguard Agency**

**Spring Place  
105 Commercial Road  
Southampton  
SO15 1EG**


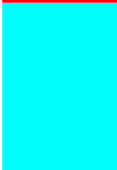

**July 2003**

## SAFE LOADING AND UNLOADING OF BULK CARRIERS

EC Directive 2001/96/EC (establishing harmonised requirements and procedures for the safe loading and unloading of bulk carriers) entered into force on 5th February 2002. It is being implemented by means of The Merchant Shipping (Safe Loading and Unloading of Bulk Carriers) Regulations 2003 (“the 2003 Regulations”) which apply the requirements of the Directive from 1<sup>st</sup> March 2004. This will be done by cross-referring to the requirements set out in this publication.

The purpose of this publication is to help ship-owners, masters, crews, terminal operators and industry in general understand and comply with the new requirements. It is based on text of the relevant Articles from the Directive. Where appropriate, explanatory guidance notes relating to the requirements have been included, in addition to extracts from the BLU Code and references to the Directive

The separate sections are colour coded as follows:

Text of General Provisions	
Text of Requirements, to which cross reference is made in the 2003 Regulations	
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## **SECTION 1 : PURPOSE**

### **Purpose**

The purpose of EC Directive 2001/96/EC and of this MCA document is to enhance the safety of bulk carriers calling at terminals in the Member States in order to load or unload solid bulk cargoes, by reducing the risks of excessive stresses and physical damage to the ship's structure during loading or unloading, through the establishment of:

1. harmonised suitability requirements for those ships and terminals, and
2. harmonised procedures for co-operation and communication between those ships and terminals.

## Scope

### SECTION 2 : SCOPE

This Maritime and Coastguard Agency (MCA) document applies to:

1. all bulk carriers, irrespective of their flag, calling at a terminal for the loading or unloading of solid bulk cargoes in the United Kingdom or in United Kingdom waters; and
2. all terminals in the Member States visited by United Kingdom flagged bulk carriers falling under the scope of this Directive.

This MCA document does not apply to facilities that only in exceptional circumstances are used for loading and unloading dry cargo in bulk into or from bulk carriers, and does not apply in cases where the loading or unloading is carried out solely with the equipment of the bulk carrier concerned.

## Guidance

The requirements in this document do not apply to ships which are:

- a) **not** bulk carriers, by definition
- b) carrying grain or;
- c) loading or unloading using shipboard equipment only

The MCA considers that the requirements of this document will still not apply, when loading or unloading bulk carriers using only shipboard equipment whether the cargo operations are conducted by the ships crew or shore personnel.

The MCA considers that examples of exceptional circumstances are when a ship must discharge its cargo in a port that does not normally handle bulk cargoes due to bad weather or when it enters a Port of Refuge for repair. If the visits to a bulk carrier terminal are planned, even if infrequently, such terminals would still be covered by the Directive.

Where there is any doubt regarding 'exceptional circumstances', the MCA should be contacted and will consider applicability on a case-by-case basis.

Terminals or stevedoring companies can write or phone the MCA at the address below for advice as to whether the Directive applies to their particular terminal or operations:

Environmental Quality Branch  
Maritime and Coastguard Agency  
Spring Place  
105 Commercial Road  
Southampton  
Hants  
SO15 1EG

Telephone Number: 023 8032 9100

The 2003 Regulations are additional to the Merchant Shipping (Carriage of Cargoes) Regulations 1999 (S.I. 1999/336).

**Definitions**

**SECTION 3 : DEFINITIONS**

In this MCA document the following expressions have the following meanings respectively, except where the context requires otherwise. :

.1 **“BLU Code”** means the Code of Practice for the Safe Loading and Unloading of Bulk Carriers, as contained in the Annex to IMO Assembly Resolution A.862(20) of 27 November 1997, as it stands on 5 February 2002.

.2 **“bulk carrier”** means any of the following ships which is of 500 gross tonnage or more:

a ship constructed with a single deck, top-side tanks and hopper-side tanks in cargo spaces and intended primarily to carry dry cargo in bulk; or

an ore carrier, where “ore carrier” means a sea-going single deck ship having two longitudinal bulkheads and a double bottom throughout the cargo region and intended for the carriage of ore cargoes in the centre holds only ; or

a combination carrier means a tanker designed to carry oil or alternatively solid bulk cargo.

**Guidance**

The definition for a bulk carrier is presently under review at IMO to take account of the fact that the design of new double-side-skin bulk carriers may differ substantially from that of bulk carriers satisfying the current definition.

Regulation 3 in Chapter 1 of SOLAS provides that cargo ships of less than 500 gross tonnage are not covered by the Regulations in the Annex to SOLAS, unless expressly provided otherwise. The definition of “bulk carrier” in the Directive provides for it to have the same meaning as in Regulation 1.6 of Chapter IX of SOLAS (as interpreted by Resolution 6 of the 1997 SOLAS Conference). Regulation 1.6 of Chapter IX does not expressly provide for application to ships of less than 500 gross tonnage (gt). Accordingly, the 2003 Regulations do not apply to ships under 500gt.

.3 **“Dry cargo in bulk”** or **“solid bulk cargo”** means any material other than liquid or gas, consisting of a combination of particles, granules or any other large pieces of material generally uniform in composition, which is loaded directly into the cargo spaces of a ship without intermediate form of containment. excluding grain;

**Guidance**

The 2003 Regulations do not cover terminals that only receive grain cargoes and bulk carriers only carrying grain. IMO are at present considering the inclusion of grain cargoes into the BLU code and this may be reflected in an amendment to Directive 2001/96/EC.

.4 **“grain”** includes wheat, maize (corn), oats, rye, barley, rice, pulses, seeds, and processed forms thereof whose behaviour is similar to that of grain in its natural state.

.5 **“terminal”** means any fixed, floating or mobile facility equipped and used for the loading or unloading of dry cargo in bulk into or from bulk carriers.

**Guidance**

“Equipped” is considered by the MCA to include those terminals that use portable cranes for loading /unloading.

- .6 **“terminal operator”** means owner of the terminal, or any organisation or person to whom the owner has transferred the responsibility for loading or unloading operations conducted at the terminal for a particular bulk carrier.

**Guidance**

In the cases where the responsibility for loading or unloading of bulk carriers has been transferred to a stevedoring company, the stevedoring company will be regarded as the terminal operator for the purpose of the 2003 Regulations. This means that the stevedoring company has the responsibility of appointing the terminal representative and having the quality system required by the 2003 Regulations for the particular terminal used for the particular cargo operation. This will allow the stevedoring company to load or unload solid bulk cargoes at different berths as long as the regulations are complied with. In the case where the equipment used to load or unload a bulk carrier covered by the 2003 Regulations is not owned by the stevedoring company, the company concerned will have the responsibility to ensure that the equipment is safe to use and the requirements to check the equipment are included in their quality system. The MCA may inspect such equipment as required by regulation 11 of the 2003 Regulations and Schedule 2 of this publication.

- .7 **“terminal representative”** means any person appointed by the terminal operator, who has the overall responsibility for, and authority to, control the preparation, the conduct and the completion of loading or unloading operations conducted by the terminal for a particular bulk carrier.

**Guidance**

The MCA does not consider that the terminal representative must be limited to one person throughout the total process of loading/unloading. Account is taken of the need for personnel to be changed to take account of shift patterns and hours of work regulatory requirements.

- .8 **“master”** means the person (except a pilot) who has command or charge of a bulk carrier; and in particular, where a ship’s officer has command over the loading or unloading operations for a bulk carrier, “master” in this context means that officer.

- .9 **“recognised organisation”** means an organisation recognised in accordance with Article 4 of Council Directive 94/57/EC (1).

- .10 **“administration of the flag State”** in the UK means the competent authorities of the State whose flag the bulk carrier is entitled to fly.

- .11 **“port State control authority”** means the Maritime and Coastguard Agency.

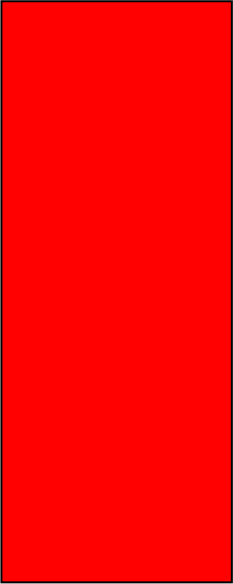
- .12 **“competent authority”** in the UK means the Maritime and Coastguard Agency, except for:

- Schedule 3, Part 3, paragraph 10
- Schedule 4, Part 3, paragraph 11
- 

where it means the Health and Safety Executive (HSE) , or in the case of Northern Ireland, the Health and Safety Executive of Northern Ireland, if the hot work is carried out by shore workers rather than by the crew of the ship.

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(1) Council Directive 94/57/EC of November 1994 on common rules and standards for ship inspection and survey organisations and for relevant activities of maritime administrations (OJ L 319, 12.12.1994, p.20). Directive as amended by Commission Directive 2001/105/EC (OJ L 019, 22.01.2001, p.9).

- 
- .13 **“required cargo information”** means the cargo information required by regulation 4(1)(b)(ii) of the Merchant Shipping (Carriage of Cargoes) Regulations 1999 (S.I. 1999/336)
  - .14 **“loading or unloading plan”** means the plan referred to in regulation 10(3) of the Merchant Shipping (Carriage of Cargoes) Regulations 1999 (S.I. 1999/336) and having the format as contained in Appendix 2 of the BLU Code, which is set out in Part 2 of Schedule 5 of this document.
  - .15 **“ship/shore safety checklist”** means the check list having the format as contained in Appendix 3 of the BLU Code, which is set out in Part 4 of Schedule 5 of this document.
  - .16 **“solid bulk cargo density declaration”** means the information on the density of the cargo to be provided in compliance with regulation 11 of the Merchant Shipping (Additional Safety Measures for Bulk Carriers) Regulations 1999 (S.I. 1999/1644).



## SCHEDULE 1

### Schedule 1

### REQUIREMENTS IN RELATION TO THE OPERATIONAL SUITABILITY OF BULK CARRIERS FOR LOADING AND UNLOADING SOLID BULK CARGOES

#### Part 1

#### Part 1: General

Terminal operators shall satisfy themselves as to the operational suitability of bulk carriers for the loading or unloading of solid bulk cargoes by checking that the bulk carriers comply with the following requirements:

1. They shall be provided with cargo holds and hatch openings of sufficient size and such a design to enable the solid bulk cargo to be loaded, stowed, trimmed and unloaded satisfactorily;
2. They shall be provided with the cargo hold hatch identification numbers as used in the loading or unloading plan. The location, size and colour of these numbers shall be clearly visible to and identifiable by the operator of the terminal loading or unloading equipment;
3. Their cargo hold hatches, hatch operating systems and safety devices shall be in good functional order and used only for their intended purpose;
4. List indicating lights, if fitted, shall be tested prior to loading or unloading and proved to be operational;
5. If required to have an approved loading instrument on board, this instrument shall be certified and operational to carry out stress calculations during loading or unloading;
6. Propulsion and auxiliary machinery shall be in good functional order;
7. Deck equipment related to mooring and berthing operations shall be operable and in good order and condition.

#### Guidance

The ship's master or ship operator/agent should confirm the above, by providing the terminal operator with a checklist, an example of which is contained in Part 2 of this Schedule, before the ship is due to arrive at that terminal. This checklist may be sent by electronic means (XML or EDIFACT), fax or any other suitable method.

If it is not practicable then the master should provide this information to the terminal operator as soon as possible. This could either be by VHF/MF/HF radio or as soon as the vessel arrives.

The content of this checklist should cover all the matters referred to above.

The "ship operator" is the owner of the ship, to which these requirements apply, or any other organisation or person such as the manager, or the bareboat charterer, who has assumed responsibility for the operation of the ship from the owner.

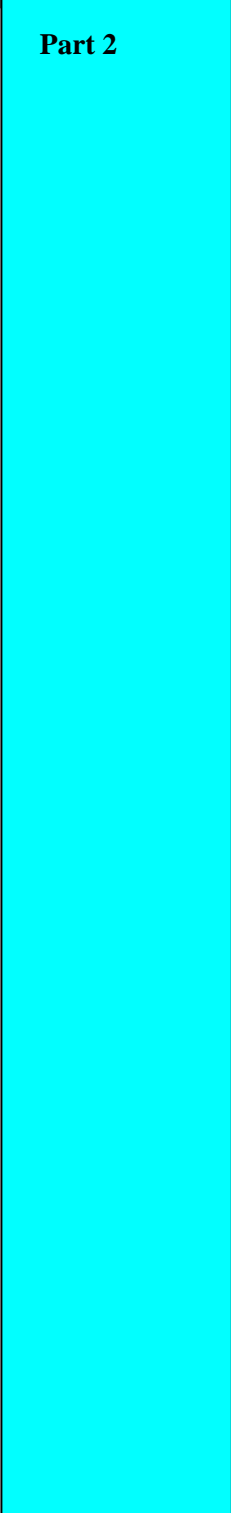
Terminal operators should satisfy themselves that the bulk carrier using their terminal is operationally suitable by checking, as far as is reasonably practical, that the information supplied by the master is correct.

**If the Terminal operator has any doubts as to the suitability of a particular bulk carrier to load or unload solid bulk cargo at the terminal he should contact the MCA for guidance.**

There is provision in Regulation 13 of the 2003 Regulations for it to be a defence for a person to prove that they have taken all reasonable steps to ensure compliance with the Regulations. This

defence may be relevant if the terminal operator has taken all reasonable steps to obtain a completed checklist from the master or ship operator.

Compliance with these provisions will be checked by the MCA during inspections carried out for purposes of these Regulations.



**Part 2**

**Part 2: Recommended Layout of Checklist**

CHECKLIST TO SHOW THE SUITABILITY OF .....* FOR LOADING AND UNLOADING SOLID BULK CARGOES (* name of ship)	
Cargo holds and hatch openings are suitable for cargo handling operations	
Holds are clearly numbered.....(e.g. 1 – 4) on the hatch covers / coamings (* please delete as appropriate) <b>Diagram</b>	
Cargo hold hatches, hatch operating systems and safety devices are in good functional order and used only for their intended purpose	
List indicating lights have been tested prior to arrival and are operational (N.B. only answer if fitted)	
Loading instrument is certified and operational to carry out stress calculations during cargo handling operations (N.B. only answer if required)	
Propulsion and auxiliary machinery is in good functional order	
Deck equipment for mooring and berthing operations is operable, in good order and condition	
Signed: (ship operator / master (* please delete as appropriate))	Date

## SCHEDULE 2

### Schedule 2

### REQUIREMENTS IN RELATION TO THE SUITABILITY OF TERMINALS

#### Part 1

#### Part 1: General

Terminal operators shall ensure that, as concerns terminals for which they assume responsibilities:

1. the terminals comply with the provisions of Part 2;
2. terminal representative(s) is (are) appointed;
3. information books are prepared containing the requirements of the terminal and competent authorities and information on the port and terminal as listed in Appendix 1, paragraph 1.2, of the BLU Code, which is reproduced in Part 3 below, and that these books are made available to the masters of bulk carriers calling at the terminal for loading or unloading solid bulk cargoes; and

#### Guidance

The 2003 Regulations make the terminal information book containing the BLU code mandatory but they do not make the Port information book mandatory. The MCA does however recommend that the ship be supplied with the port information book where available.

4. a quality management system is developed, implemented and maintained. Such quality management system shall be certified in accordance with the ISO 9001:2000 standards or an equivalent standard fulfilling at least all aspects of ISO 9001:2000, and it shall be audited in accordance with the guidelines of the ISO 10011:1991 or equivalent standard fulfilling all aspects of ISO 10011:1991. Directive 98/34/EC<sup>1</sup> shall be complied with in relation to the said equivalent standards.

#### Guidance

See the guidance contained under the definition for terminal operator with regard to the loading and unloading of bulk carriers by stevedoring companies working at different berths within the same or other ports.

The Directive uses the word “certified” in respect of the QMS system, so the MCA considers that this means the port’s QMS must be approved by an appropriate accreditation body.

A transitional period of three years from 5<sup>th</sup> February 2002 shall be granted to set up the quality management system and one additional year to obtain the certification of the system.

#### Guidance

If required, the MCA can provide details of organisations that offer services for setting up QMS and audits. Please contact MCA at the address on page 5 for further advice.

With regard to the second part of paragraph 4, the effect of the 2003 Regulations will be that a QMS system is to be in place by 5 February 2005 and certification is to be completed by 5 February 2006.

5. By way of derogation from the requirements of paragraph 4, a temporary authorisation to operate, valid for no more than 12 months, may be issued by the MCA for newly established

<sup>1</sup> Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society services (OJ L 204, 21.7.1998, p. 37). Directive as amended by Directive 98/48 (OJ L 217, 5.8.1998, p. 18).

terminals. The terminal must however demonstrate its plan to implement a quality management system in accordance with the ISO 9001:2000 standard or equivalent standard, as set out in paragraph 4.

## Part 2

### **Part 2: Requirements in relation to the suitability of terminals for loading and unloading solid bulk cargoes**

1. Terminals shall only accept bulk carriers for loading or unloading of solid bulk cargoes at their terminal that can safely berth alongside the loading or unloading installation, taking into consideration waterdepth at the berth, maximum size of the ship, mooring arrangements, fendering, safe access and possible obstructions to loading or unloading operations.
2. Terminal loading and unloading equipment shall be properly certified and maintained in good order, in compliance with the relevant regulations and standards, and only operated by duly qualified and, if appropriate, certified personnel.
3. Terminal personnel shall be trained in all aspects of safe loading and unloading of bulk carriers commensurate with their responsibilities. The training shall be designed to provide familiarity with the general hazards of loading and unloading of solid bulk cargoes and the adverse effect improper loading and unloading operations may have on the safety of the ship.

#### Guidance

There are at present no established national or international training requirements for terminal personnel involved in the loading and unloading of bulk carriers. Until there is such a scheme, the MCA will accept existing appropriate training that takes place within the framework of existing health and safety legislation.

4. Terminal personnel involved in the loading and unloading operations shall be provided with and use personnel protective equipment and shall be duly rested to avoid accidents due to fatigue.

#### Guidance

The Health and Safety Executive (HSE) (or in Northern Ireland, the HSE of Northern Ireland) have responsibility for the areas covered by paragraphs 2 – 4. The legislation concerning this is Regulations 4 and 10 of the Personal Protective Equipment at Work Regulations 1992 (No. 2966) and Regulations 19(2), (3) and (5) of the Docks Regulations 1988 (No. 1655). Avoidance of fatigue is addressed in Regulation 8 of the Working Time Regulations (No. 1833) and Regulation 11(2) of the Docks Regulations 1988 (No. 1655).

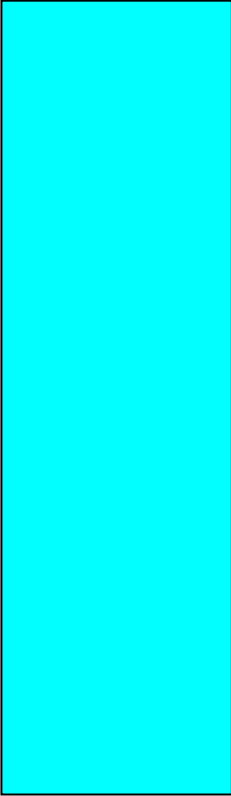
As the HSE have legislation that covers these requirements, only a limited legal requirement relating to paragraphs 2 – 4 is imposed under the 2003 Regulations (see regulation 12 of the 2003 Regulations).

MCA surveyors will carry out all inspections, for the purposes of the 2003 Regulations, including areas for which HSE have responsibility. Should any deficiencies be found, the HSE will be informed and they will take appropriate action as necessary.

## Part 3

### **Part 3 – Terminal information books**

1. Details of terminal contact personnel
2. technical data on the berths loading or unloading equipment
3. depth of water at the berth

- 
4. water density at the berth
  5. the minimum and maximum size of ship which the terminal's facilities are designed to accept, including the minimum clearance between deck obstructions
  6. mooring arrangements and attendance of mooring lines
  7. loading or unloading rates and equipment clearances
  8. loading or unloading procedures and communications
  9. cargo weight determinations by weightmeter and draught survey
  10. conditions for acceptance of combination carriers
  11. access to and from ships and berths or jetties
  12. terminal emergency procedures
  13. damage and indemnity arrangements
  14. landing location of accommodation ladder
  15. information on waste reception facilities

**SCHEDULE 3**

**Schedule 3**

**Part 1**

**RESPONSIBILITIES OF THE MASTER**

**Part 1 : General**

1. The master shall be responsible at all times for the safe loading and unloading of the bulk carrier under his command.
2. The master shall, well in advance of the ship's estimated time of arrival at the terminal, provide the terminal with the information set out in *Part 2*.
3. Before any solid bulk cargo is loaded, the master shall ensure that he has received the required cargo information and, where required, a solid bulk cargo density declaration. This information shall be contained in a form for required cargo information as set out in Appendix 5 of the BLU Code, which is reproduced in Part 4 below. If the ship is due to unload solid bulk cargo then the master shall give a copy of the form for cargo information to the terminal representative, before the unloading operation begins.

**Guidance**

Schedule 4 Part 1.2 requires the terminal operator to be satisfied that the master has been advised as early as possible of the information contained in the cargo declaration.

4. Prior to the start of and during loading or unloading the master shall discharge the duties listed in Part 3.

**Part 2**

**Part 2- Information to be provided by the master to the terminal**

1. The ship's estimated time of arrival off the port as early as possible. This advice shall be updated as appropriate.
2. At the time of the initial time of arrival advice:
  - a) name, call sign, IMO number, flag, port of registry;
  - b) loading or unloading plan, stating the quantity of cargo, stowage by hatches, loading or unloading order and the quantity to be loaded in each pour or unloaded in each stage of the discharge;
  - c) arrival and proposed departure draughts;
  - d) time required for ballasting or de-ballasting;
  - e) ship's length overall, beam, and length of the cargo area from the forward coaming of the forward-most hatch to the after coaming of the aft-most hatch into which cargo is to be loaded or from which cargo is to be unloaded;
  - f) distance from the waterline to the first hatch to be loaded or unloaded and the distance from the ship's side to the hatch opening;
  - g) location of the ship's accommodation ladder;

**Guidance**

The master has responsibility for ensuring that there is safe access to and from the ship. Generally the ship provides the access and the master and terminal operator confirm it is safe and suitable. Where the ship's own gangway is not suitable, the terminal may provide one. However, the master is still obliged to ensure it is safe (see the Merchant Shipping (Means of Access) Regulations 1988 (S.I. 1988/1637)).

- h) air draught;
- i) details and capacities of ship's cargo-handling gear, if any;
- j) number and type and size of mooring lines;
- k) specific requests, such as for trimming or continuous measurement of the water content of the cargo;
- l) details of any necessary repairs which may delay berthing, the commencement of loading or unloading, or may delay the ship sailing on completion of loading or unloading;
- m) Any other information related to the ship requested by the terminal.

**Guidance**

The information above must be supplied by the master in addition to any written confirmation of compliance, referred to in the guidance for Schedule 1.

Terminals may request other information in addition to that set out above, but the aim of the Directive is to harmonise procedures.

**Part 3**

**Part 3: Duties of the Master Prior to and During Loading or Unloading Operations**

Prior to and during loading or unloading operations the master shall ensure that:

1. the loading or unloading of cargo and the discharge or intake of ballast water is under the control of the ship's officer in charge;
2. the disposition of cargo and ballast water is monitored throughout the loading or unloading process to ensure that the ship's structure is not overstressed;
3. the ship shall be kept upright or, if a list is required for operational reasons, it shall be kept as small as possible;
4. the ship remains securely moored, taking due account of local weather conditions and forecasts;
5. sufficient officers and crew are retained on board to attend to the adjustment of the mooring lines or for any normal or emergency situation, having regard to the need of the crew to have sufficient rest periods to avoid fatigue;

**Guidance**

The Merchant Shipping (Hours of Work) Regulations 2002 (S.I. 2002/2125) require the companies to ensure that they have adequate crew onboard a ship and that they be adequately rested.

6. the terminal representative is made aware of the cargo trimming requirements, which shall be in accordance with the procedures of the IMO Code of Safe Practice for Solid Bulk Cargoes last published in 2002, ISBN 92-801-5129-0.
7. the terminal representative is made aware of the requirements for harmonisation between de-ballasting or ballasting and cargo loading or unloading rates for his ship and of any deviation from the de-ballasting or ballasting plan or any other matter which may affect cargo loading or unloading;

8. the ballast water is discharged at rates which conform to the agreed loading plan and does not result in flooding of the quay or of adjacent craft. Where it is not practical for the ship to completely discharge its ballast water prior to the trimming stage in the loading process, he agrees with the terminal representative on the times at which loading may need to be suspended and the duration of such suspensions;
9. there is agreement with the terminal representative as to the actions to be taken in the event of rain, or other change in the weather, when the nature of the cargo would pose a hazard in the event of such a change;
10. no hot work is carried out on board or in the vicinity of the ship while the ship is alongside the berth, except with the permission of the terminal representative and in accordance with any requirements of the competent authority;

**Guidance**

In paragraph 10 the competent authority is the HSE, under the requirements of the Dangerous Substances and Explosive Atmospheres Regulations 2002 (No. 2776) and Regulations 3(6), (9) and (11) of the Provision and Use of Work Equipment 1998 (No. 2306) if work is carried out by the shore-workers.

Hotwork undertaken by crew onboard ship, that does not affect shore workers, falls under the responsibility of the MCA. This is detailed in the Code of Safe Working Practices for Merchant Seamen. Hotwork undertaken by the shore workers on board the ship is the responsibility of the HSE.

As the HSE has legislation that already covers the requirements in paragraphs 10 and 15 of this Schedule the 2003 Regulations only cover hot work onboard ship when undertaken by the crew and no shore workers are involved (see regulation 12 of the 2003 Regs.).

11. close supervision of the loading or unloading operation and of the ship during final stages of the loading or unloading;
12. the terminal representative is warned immediately if the loading or unloading process has caused damage, has created a hazardous situation, or is likely to do so;
13. the terminal representative is advised when final trimming of the ship has to commence in order to allow for the conveyor system to run-off;
14. the unloading of the port side closely matches that of the starboard side in the same hold to avoid twisting the ship's structure;
15. when ballasting one or more holds, account is taken of the possibility of the discharge of flammable vapours from the holds and precautions are taken before any hot work is permitted adjacent to or above these holds.

**Part 4****Part 4: Appendix 5 of the BLU Code****Form for Required Cargo Information (Recommended layout)**

*Note: This form is not applicable if the cargo to be loaded requires a declaration under the requirements of SOLAS 1974, chapter VII, regulation 5; MARPOL 73 / 78, Annex III, regulation 4; and the IMDG Code, General Introduction, section 9.*

**Guidance**

A “declaration” is documentation relating to the carriage of dangerous goods or marine pollutants.

Shipper		Reference number(s)
Consignee		Carrier
Name / means of transport	Port/place of departure	Instructions or other matters
Port / place of destination		
General description of the cargo (Type of material / particle size)*  *For solid bulk cargo		Gross mass (kg/tonnes)  <input type="checkbox"/> General cargo <input type="checkbox"/> Cargo unit (s) <input type="checkbox"/> Bulk cargo
Specification of bulk cargo* Stowage factor Angle of repose Trimming procedures  * if applicable, † e.g., IMO class, UN No. or BC No. and EmS No.		
Relevant special properties of the cargo		Additional certificate(s)*  <input type="checkbox"/> Certificate of moisture content and transportable moisture limit <input type="checkbox"/> Weathering certificate <input type="checkbox"/> Exemption certificate <input type="checkbox"/> Other (specify)  * if required
<b>DECLARATION</b>  I hereby declare that the consignment is fully and accurately described and that the given test results and other specifications are correct to the best of my knowledge and belief and can be considered as representative for the cargo to be loaded.		Name / status, company / organisation of signatory  Place and date  Signature on behalf of shipper

As an aid to paper documentation, Electronic Data Processing (EDP) or Electronic Data Interchange (EDI) techniques may be used.

This form meets the requirements of SOLAS 1974, chapter VI, regulation 2; the BC Code and the CSS Code

## SCHEDULE 4

### Schedule 4

### RESPONSIBILITIES OF THE TERMINAL REPRESENTATIVE

#### Part 1: General

1. Upon receipt of the ship's initial notification of its estimated time of arrival, the terminal representative shall provide the master with the information mentioned in Part 2.
2. The terminal representative shall be satisfied that the master has been advised as early as possible of the information contained in the cargo declaration form.
3. The terminal representative shall without delay notify the master and the MCA of apparent deficiencies he has noted on board a bulk carrier which could endanger the safe loading or unloading of solid bulk cargoes.

In paragraph 3 any deficiencies should be reported to the local Marine Office. However, any action of loading and unloading that affects the safety of shore personnel should be reported to the HSE

4. Prior to the start of and during loading or unloading, the terminal representative shall discharge the duties listed in Part 3.

#### Part 2: Information to be provided by the terminal representative to the master

1. The name of the berth at which loading or unloading will take place and the estimated times for berthing and completion of loading or unloading. Information on estimated times for berthing and departure and on minimum waterdepth at the berth shall be progressively updated and passed to the master on receipt of successive ETA advice.
2. Characteristics of loading or unloading equipment, including the terminal's nominal loading or unloading rate and the number of loading or unloading heads to be used, as well as the estimated time required to complete each pour or – in the case of unloading – the estimated time required for each stage of the discharge.
3. Features on the berth or jetty the master may need to be aware of, including the position of fixed and mobile obstructions, fenders, bollards and mooring arrangements.
4. Minimum depth of water alongside the berth and in approach and departure channels. Information on minimum waterdepth in approach and departure channels shall be provided by the terminal operator.
5. Water density at the berth.
6. Maximum distance between the water line and the top of the cargo hatch covers or coamings, whichever is relevant to the loading or unloading operation, and the maximum air draught.
7. Arrangements for gangways and access.

The master has responsibility for ensuring that there is safe access to and from the ship. Generally the ship provides the access and the master and terminal operator confirm it is safe and suitable. If the ship is unable to provide a suitable gangway, the terminal may provide one. However, the master is still obliged to ensure it is safe (see the

Merchant Shipping (Means of Access) Regulations 1988).

8. Which side of the ship is to be alongside the berth.
9. Maximum allowable speed of approach to the jetty and availability of tugs, their type and bollard pull.
10. The loading sequence for different parcels of cargo, and any other restrictions if it is not possible to take the cargo in any order or any hold to suit the ship.
11. Any properties of the cargo to be loaded which may present a hazard when placed in contact with cargo or residues on board.
12. Advance information on the proposed loading or unloading operations or changes to existing plans for loading or unloading.
13. If the terminal's loading or unloading equipment is fixed, or has any limits to its movement.
14. Mooring lines required.
15. Warning of unusual mooring arrangements.
16. Any restrictions on ballasting or de-ballasting.
17. Maximum sailing draught permitted by the terminal operator.
18. Any other item related to the terminal requested by the master.

**Part 3**

**Part 3: Duties of the Terminal Representative prior to and during loading or unloading operations**

Prior to the start of and during loading or unloading operations the terminal representative shall:

1. provide the master with the names and procedures for contacting the terminal personnel or shipper's agent who will have the responsibility for the loading or unloading operation and with whom the master will have contact;
2. take all precautionary measures to avoid damage to the ship by the loading or unloading equipment and inform the master if damage occurs;

**Guidance**

Loading or unloading equipment means both the shore-side installations and portable equipment temporarily placed in the ship's holds.

3. ensure the ship is kept upright or, if a list is required for operational reasons, it shall be kept as small as possible;
4. ensure the unloading of the port side closely matches that of the starboard side in the same hold to avoid twisting the ship;
5. in the case of high density cargoes, or when the individual grab loads are large, alert the master that there may be high, localised impact loads on the ship's structure until the tank top is completely covered by cargo, especially when high free-fall drops are permitted and special care is taken at the start of the loading operation in each cargo hold;

6. ensure that there is agreement between the master and the terminal representative at all stages and in relation to all aspects of the loading or unloading operations and that the master is advised on any change to the agreed loading rate, and at the completion of each pour of the weight loaded;
7. maintain a record of the weight and disposition of the cargo loaded or unloaded and ensure that the weights in the holds do not deviate from the agreed loading or unloading plan;
8. ensure that the cargo is trimmed, when loading or unloading, to the master's requirements;
9. ensure that the quantities of cargo required to achieve the departure draft and trim shall allow for all cargo on the terminal's conveyor systems to be run off and empty on completion of a loading. For that purpose the terminal representative shall advise the master of the nominal tonnage contained on the terminal's conveyor system and any requirements for clearing the conveyor system on completion of the loading;
10. in the case of unloading, give the master the maximum warning when it is intended to increase, or to reduce, the number of unloading heads used and advise the master when unloading is considered to be completed from each hold;
11. ensure that no hot work is carried out on board or in the vicinity of the ship while the ship is alongside the berth, except with the permission of the master and in accordance with any requirements of the competent authority.

#### **Guidance**

Requirements for paragraph 11 are covered by The Dangerous Substances and Explosive Atmospheres Regulations 2002 (No. 2776) and Regulations 3(6), (9) and (11) of the Provision and Use of Work Equipment Regulations 1998 (No. 2306) if work is carried out by shore-workers. The HSE is the competent authority for the above regulations.

Hotwork undertaken by crew, that does not affect shore workers, comes under the MCA's responsibility. The Code of Safe Working Practices details this for Merchant Seamen. Hotwork undertaken by shore workers is the responsibility of the HSE.

As the HSE has legislation that already covers the requirements in paragraph 11 of this Schedule, the 2003 Regulations only cover hot work onboard ship when undertaken by the crew and no shore workers are involved (see Regulation 12 of the 2003 Regs).

**PROCEDURES BETWEEN BULK CARRIERS AND TERMINALS****Part 1****Part 1: General**

1. Before solid bulk cargoes are loaded or unloaded, the master shall agree with the terminal representative on the loading or unloading plan in accordance with the provisions of Regulation 10(3) of the Merchant Shipping (Carriage of Cargoes) Regulations 1999 (S.I. 1999/336). The loading or unloading plan shall be prepared in the form laid down in Appendix 2 of the BLU Code, which is reproduced in Part 2 of this Schedule. The plan shall contain the IMO number of the bulk carrier concerned, and the master and the terminal representative shall confirm their agreement to the plan by signing it.

Any change to the plan, which according to either party may affect the safety of the vessel or crew, shall be prepared, accepted and agreed by both parties in the form of a revised plan.

The agreed loading or unloading plan and any subsequent agreed revisions shall be kept by the ship and the terminal for a period of six months for the purpose of any necessary verification by the competent authorities.

In the case where a bulk carrier is loading or discharging a bulk cargo covered by the 2003 Regulations and also has onboard, or is loading or discharging, a cargo that is not covered by those Regulations, the MCA advise that, for important safety reasons, the requirements to complete and maintain the loading/unloading plan and the ship/shore safety check list should be followed in relation to the other cargo, as well as in relation to the bulk cargo.

2. Before loading or unloading is commenced, the ship/shore safety checklist shall be completed and signed jointly by the master and the terminal representative in accordance with the guidelines of Appendix 4 of the BLU Code, which are set out in Part 3 of this Schedule.

Part 4 of this Schedule is an example of the ship/shore safety checklist layout which has been produced from Appendix 3 of the BLU Code. The checklist is intended to help ship and terminal personnel to recognise potential problems, and to be better prepared for them. Section 3.17 of this document defines the ship/shore safety checklist as the checklist referred to in section 4 of the BLU code that has the format that is contained in Appendix 3 of the BLU Code.

Where there is a charter party, any requirements to empty and clean the ship's hold may also depend on the terms and conditions specified in the charter party.

3. An effective communication between the ship and the terminal shall be established and maintained at all times, capable of responding to requests for information on the loading or unloading process and to ensure prompt compliance should the master or the terminal representative order the loading or unloading operations to be suspended.
4. The master and the terminal representative shall conduct the loading or unloading operations in accordance with the agreed plan. The terminal representative shall be responsible for the loading or unloading of the solid bulk cargo as regards the hold order, quantity and rate of loading or unloading stated on that plan. He shall not deviate from the agreed loading or unloading plan, otherwise than by prior consultation and written agreement with the master.

5. On completion of the loading or unloading, the master and the terminal representative shall agree in writing that the loading or unloading has been done in accordance with the loading or unloading plan, including any agreed changes. In the case of unloading, such agreement shall include a record that the cargo holds have been emptied and cleaned to the master's requirements and shall record any damage suffered by the ship and any repairs carried out.



# Example Loading/Unloading Plan

The loading or unloading plan should be prepared in a form such as shown below.  
A different form may be used provided it contains the essential information enclosed in the heavy line box.

LOADING OR UNLOADING PLAN Version No. 1		Date 96-03-24	Vessel BARBICAN				Voyage No. 044																																				
Load/Unload Port BOCA GRANDE	Cargo(es) IRON ORE		Assumed stowage factor of cargo(es) <i>FINES 1.40 t/cu ft / LUMP 1.0 t/cu ft</i>	Ballast pumping rate 4000 t/hr	Dock water density 1.025	Max draught available (HW) 17.88m	Max air draught in berth N/A																																				
To/From Port JAPAN F.O.	Last cargo IRON ORE & COAL		No. of loaders/stowagers 1	Load/discharge rate 4500 t/hr	Min draught available (LW) 9.42m	Max sailing/arrival draught 17.88m																																					
<table border="1"> <tr> <td>Tonnes</td> <td>11</td> <td>10</td> <td>14756</td> <td>17000</td> <td>717382</td> <td>516382</td> <td>516382</td> <td>416900</td> <td>315382</td> <td>218766</td> <td>113050</td> </tr> <tr> <td>Grade</td> <td></td> <td></td> <td>FINES</td> <td>LUMP</td> <td>LUMP</td> <td>LUMP</td> <td>LUMP</td> <td>FINES</td> <td>LUMP</td> <td>LUMP</td> <td>FINES</td> </tr> <tr> <td>Totals:</td> <td colspan="2">Grade: FINES = 44706 Tonnes</td> <td colspan="2">Grade: LUMP = 98294 Tonnes</td> <td colspan="2">Grade: LUMP = 143000 Tonnes</td> <td colspan="2">Grade: FINES = 416900 Tonnes</td> <td colspan="2">Grade: LUMP = 315382 Tonnes</td> <td colspan="1">Grade: FINES = 113050 Tonnes</td> </tr> </table>								Tonnes	11	10	14756	17000	717382	516382	516382	416900	315382	218766	113050	Grade			FINES	LUMP	LUMP	LUMP	LUMP	FINES	LUMP	LUMP	FINES	Totals:	Grade: FINES = 44706 Tonnes		Grade: LUMP = 98294 Tonnes		Grade: LUMP = 143000 Tonnes		Grade: FINES = 416900 Tonnes		Grade: LUMP = 315382 Tonnes		Grade: FINES = 113050 Tonnes
Tonnes	11	10	14756	17000	717382	516382	516382	416900	315382	218766	113050																																
Grade			FINES	LUMP	LUMP	LUMP	LUMP	FINES	LUMP	LUMP	FINES																																
Totals:	Grade: FINES = 44706 Tonnes		Grade: LUMP = 98294 Tonnes		Grade: LUMP = 143000 Tonnes		Grade: FINES = 416900 Tonnes		Grade: LUMP = 315382 Tonnes		Grade: FINES = 113050 Tonnes																																
Pour No.	Cargo		Ballast operations	Time required (hours)	Comments	Calculated values				Calculated values			Observed Values																														
	Hold No.	Tonnes				Draught		Maximum		Air draught	Draught mid	Trim	Draught																														
						Fwd	Aft	BM*	SF*				Fwd	Aft	Mid																												
1	4	10000	GO 1&3 UWT's	2.22	FINES	9.99	10.77	73	49		10.38	0.78																															
2	1	7000	GO Upper Fore Peak PO 2 Hold	1.56	FINES change over 2 Hold	10.14	10.48	66	53		10.31	0.34																															
3	9	8000	GO 5 UWT's PO Aft peak	1.78	FINES	9.42	12.15	63	59		10.79	2.73																															
4	4	6900	PO 1 DB's	1.53	FINES	10.12	12.50	80	43		11.31	2.38																															
5	9	6756	PO 5 DB's	1.50	FINES	9.56	13.74	80	45		11.65	4.18																															
6	1	6050	PO Lower FP GO 2 UWT's	1.36	FINES	9.61	13.57	75	49		11.59	3.96																															
					Change grade to LUMP																																						
7	7	10000	GO 6 Hold to 50%	2.22	LUMP	8.94	14.38	-58	55		11.66	5.43																															
8	5	10000	PO 6 Hold	2.22	LUMP	9.63	13.63	-67	49		11.63	4.00																															
9	7	7382	Educt 6 Hold	1.64	LUMP change over 6 Hold	9.57	15.24	-64	47		12.41	5.67																															
10	3	10000	PO 2&3 DB's	2.22	LUMP	10.04	14.65	-49	38		12.53	4.24																															
11	8	10000	GO 4 UWT's	2.22	LUMP	9.58	16.66	-50	43		13.12	7.08																															
12	5	6382	PO 4 DB's	1.42	LUMP	10.28	16.24	58	37		13.26	5.96																															
13	8	6000	Educt as required	1.33	LUMP	9.90	17.88	53	38		13.89	7.98																															
14	2	8000	Educt as required	1.78	LUMP	12.51	16.68	-65	46		14.60	4.17																															
15	6	9000	Educt as required	2.00	LUMP	13.14	17.80	42	-21		15.47	4.66																															
16	2	6000	Educt as required	1.33	LUMP	15.06	16.98	33	-14		16.02	1.92																															
17	6	7382	Educt ballast lines	1.64	LUMP	15.39	17.88	48	-30		16.74	2.29																															
18	3	5382	Shut down ballast	1.20	LUMP	16.95	17.84	44	-27		17.02	0.59																															
					Trim check																																						
19	8	1000		0.22	LUMP	16.94	17.72	49	-30		17.33	0.79																															
20	2	1766		0.39	LUMP	17.51	17.51	46	-27		17.51	0.00																															
			DRAUGHT SURVEY		SEAGOING CONDITION	17.51	17.51	62	-36		17.51	0.00																															
TOTAL		143000			Signed Terminal <i>Hodkinson</i>																																						
					Signed Ship <i>A. Smith</i>																																						

NO DEVIATION FROM ABOVE PLAN WITHOUT PRIOR APPROVAL OF CHIEF MATE  
Ports to be numbered 1A, 1B, 2A, 2B, etc when using two loaders  
Abbreviations: PI - Pump In GI - Gravitally In F - Full PO - Pump Out GO - Gravitally Out MT - Empty  
All entries within the box must be completed as far as possible. The entries outside the box are optional.

\*Bending moments (BM) & shear forces (SF) are to be expressed as a percentage of maximum permitted in-port values for intermediate stages, and of maximum permitted at-sea values for the final stage. Every step in the loading/unloading plan must remain within the allowable limits for hull girder shear forces, bending moments and tonnage per hold, where applicable. Loading/unloading operations may have to be paused to allow for ballasting/delballasting in order to keep actual values within limits.

# Example Loading/Unloading Plan

The loading or unloading plan should be prepared in a form such as shown below.  
A different form may be used provided it contains the essential information enclosed in the heavy line box.

UNLOADING PLAN Version No. 1		Date 96-05-15	Vessel BARBICAN				Voyage No. 044					
Load/Unload Port CHIBA	Cargo(es) IRON ORE	Assumed stowage factor of cargo(es) FINE'S 1.6 t/cu m LUMP 1.4 t/cu m	Ballast pumping rate 6000 t/hr	Dock water density 1.025	Max draught available (H.W.) 17.35m	Max air draught in berth 80m						
Ship/From Port BOCA GRANDE	Last cargo IRON ORE & COAL	No. of loaders/dischargers 2	Load/discharge rate 1250 t/hr per grab		Min draught available (L.W.) 7.59m	Max sailing/arrival draught 17m						
Tonnes		11	10	814756	816910	717382	816382	516382	416900	315382	215470	113050
Grade			FINE'S	LUMP	LUMP	LUMP	LUMP	FINE'S	LUMP	LUMP	FINE'S	
Totals:		Grade: FINE'S = 44706 Tonnes		Grade: LUMP = 97908 Tonnes		Grade: _____ Tonnes		Total: 142614		Tonnes		

Pour No.	Cargo		Ballast operations	Time required (hours)	Comments	Calculated values				Calculated values			Observed Values			
	Hold No.	Tonnes				Draught		Maximum		Air draught	Draught mid	Trim	Draught			
						Fwd	Aft	BM*	SF*				Fwd	Aft	Mid	
1A	2	15470	G1 12.2 DB's PI 2UWT's	13.2	LUMP 286 Holds MT	13.82	16.29	-72	48			2.47				
1B	6	16382														
2A	5	10000	G1 4 DB's PI 4 UWT's	8.0	LUMP	13.66	14.54	71	56			1.10				
2B	8	10000														
3A	3	9000	G1 3 DB's	7.2	LUMP	12.19	13.68	77	78			1.49				
3B	7	9000														
4A	5	6382	G1 5 DB's	5.5	LUMP 588 Holds MT	12.67	15.22	68	38			2.55				
4B	8	6910	PI 6 Hold to 0.5m ullage													
5A	3	6382		6.7	LUMP 327 Holds MT	11.05	13.94	-91	59			2.89				
5B	7	8382														
Draught survey and change grade to FINE'S																
6A	1	6000	PI 12.5 UWT's	4.8	FINE'S	9.75	14.01	83	42			4.26				
6B	9	6000														
7A	4	8756		7.0	FINE'S	9.38	10.64	80	52			1.26				
7B	9	8756														
8A	1	7050	G1 & PI Lower Forepeak	6.5	FINE'S	7.89	11.30	84	-82			3.71				
8B	4	8144	PI Upper Forepeak & 3 UWT's													
Instructions: ① Please empty No.6 Hold and leave as clean as possible. This will then be used for ballast during stage G. ② Grab and bulldozer blades must not be allowed to strike the ship's structure. Please instruct drivers to take special care. ③ Please note there are bilge and eductor plates in the after corners of each hold. Care required in these areas. ④ All damage to be reported. Holds to be surveyed on cargo completion.																
SEAGOING CONDITION						7.59	11.30	84	-82			3.31				
TOTAL		142614				Signed Terminal <i>DEBHAMANT</i>										
NO DEVIATION FROM ABOVE PLAN WITHOUT PRIOR APPROVAL OF CHIEF MATE Pours to be numbered 1A, 1B, 2A, 2B, etc when using two loaders. Abbreviations: PI - Pump in; GI - Gravitator in; F - Full; PO - Pump Out; GO - Gravitator Out; MT - Empty All services within this box must be completed as far as possible. The services outside the box are optional.						Signed Ship <i>A. Smith</i>			*Bending moments (BM) & shear forces (SF) are to be expressed as a percentage of maximum permitted in-port values for intermediate stages, and of maximum permitted at-sea values for the final stage. Every step in the loading/unloading plan must remain within the allowable limits for hull girder shear forces, bending moments and tonnage per hold, where applicable. Loading/unloading operations may have to be paused to allow for ballasting/deballasting in order to keep actual values within limits.							

## Part 3: Appendix 4 of the BLU Code

### Guidelines on completing the ship / shore safety checklist.

The purpose of the ship/shore safety checklist is to improve working relationships between ship and terminal, and thereby to improve the safety of operations. Misunderstandings occur and mistakes can be made when ships' officers do not understand the intentions of the terminal personnel, and the same applies when terminal personnel do not understand what the ship can and cannot safely do.

Completing the checklist together is intended to help ship and terminal personnel to recognize potential problems, and to be better prepared for them.

*1 Is the depth of water at the berth, and the air draught,<sup>2</sup> adequate for the cargo operations to be completed?*

The depth of water should be determined over the entire area the ship will occupy, and the terminal should be aware of the ship's maximum air draught and water draught requirements during operations. Where the loaded draught means a small underkeel clearance at departure, the Master should consult and confirm that the proposed departure draught is safe and suitable.

The ship should be provided with all available information about density and contaminants of the water at the berth.

*2 Are mooring arrangements adequate for all local effects of tide, current, weather, traffic and craft alongside?*

Due regard should be given to the need for adequate fendering arrangements. Ships should remain well secured in their moorings. Alongside piers or quays, keeping mooring lines taut should prevent ranging of the ship; attention should be given to the movement of the ship caused by tides, currents or passing ships and by the operation in progress.

Wire ropes and fibre ropes should not be used together in the same direction because of differences in their elastic properties.

*3 In emergency, is the ship able to leave the berth at any time?*

The ship should normally be able to move under its own power at short notice, unless agreement to immobilize the ship has been reached with the terminal representative, and the port authority where applicable.

In an emergency a ship may be prevented from leaving the berth at short notice by a number of factors. These include low tide, excessive trim or draught, lack of tugs, no navigation possible at night, main engine immobilized, etc. Both the ship and the terminal should be aware if any of these factors apply, so that extra precautions can be taken if need be.

The method to be used for any emergency unberthing operation should be agreed taking into account the possible risks involved. If emergency towing-off wires are required, agreement should be reached on their position and method of securing.

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<sup>2</sup> The term *air draught* should be construed carefully: if the ship is in a river or an estuary, it usually refers to maximum mast height for passing under bridges, while on the berth it usually refers to the height available or required under the loader or unloader.

4 *Is there safe access between the ship and the wharf?*

The means of access between the ship and the wharf must be safe and legal, and may be provided by either ship or terminal. It should consist of an appropriate gangway or accommodation ladder with a properly fastened safety net underneath it. Access equipment must be tended, since it can be damaged as a result of changing heights and draughts; persons responsible for tending it must be agreed between the ship and terminal, and recorded in the checklist.

The gangway should be positioned so that it is not underneath the path of cargo being loaded or unloaded. It should be well illuminated during darkness. A lifebuoy with a heaving line should be available on board the ship near the gangway or accommodation ladder.

5 *Is the agreed ship/terminal communications system operative?*

Communication should be maintained in the most efficient way between the responsible officer on duty on the ship and the responsible person ashore. The selected system of communication and the language to be used, together with the necessary telephone numbers and/or radio channels, should be recorded in the checklist.

6 *Are the liaison contact persons during operations positively identified?*

The controlling personnel on ship and terminal must maintain an effective communication with each other and their respective supervisors. Their names, and if appropriate where they can be contacted, should be recorded in the checklist.

The aim should be to prevent development of hazardous situations, but if such a situation does arise, good communication and knowing that has proper authority can be instrumental in dealing with it.

7 *Are adequate crew on board, and adequate staff in the terminal, for emergency?*

It is not possible or desirable to specify all conditions, but it is important that a sufficient number of personnel should be on board the ship, and in the terminal throughout the ship's stay, to deal with an emergency.

The signals to be used in the event of an emergency arising ashore or on board should be clearly understood by all personnel involved in cargo operations.

8 *Have any bunkering operations been advised and agreed?*

The person on board in charge of bunkering must be identified, together with the time, method of delivery (hose from shore, bunker barge, etc.) and the location of the bunker point on board. Loading of bunkers should be co-ordinated with the cargo operation. The terminal should confirm agreement to the procedure.

9 *Have any intended repairs to wharf or ship whilst alongside been advised and agreed?*

Hot work, involving welding, burning or use of naked flame, whether on the ship or the wharf may require a hot work permit. Work on deck, which could interfere with cargo work, will need to be coordinated.

In the case of a combination carrier a gas free certificate (including for pipelines and pumps) will be necessary, issued by a shore chemist approved by the terminal or port authority.

*10 Has a procedure for reporting and recording damage from cargo operations been agreed?*

Operational damage can be expected in a harsh trade. To avoid conflict, a procedure must be agreed, before cargo operations commence, to record such damage. An accumulation of small items of damage to steel work can cause significant loss of strength for the ship, so it is essential that damage be noted, to allow prompt repair.

*11 Has the ship been provided with copies of port and terminal regulations, including safety and pollution requirements and details of emergency services?*

Although much information will normally be provided by a ship's agent, a fact sheet containing this information should be passed to the ship on arrival, and should include any local regulations controlling the discharge of ballast water and hold washings.

*12 Has the shipper provided the master with the properties of the cargo in accordance with the requirements of chapter VI of SOLAS?*

The shipper should pass to the master, for example, the grade of cargo, particle size, quantity to be loaded, stowage factor, and cargo moisture content. The IMO BC Code gives guidance on this.

The ship should be advised of any material that may contaminate or react with the planned cargo, and the ship should ensure that the holds are free of such material.

*13 Is the atmosphere safe in holds and enclosed spaces to which access may be required, have fumigated cargoes been identified, and has the need for monitoring of atmosphere been agreed by ship and terminal?*

Rusting of steelwork or the characteristics of a cargo may cause a hazardous atmosphere to develop. Consideration should be given to: oxygen depletion in holds; the effect of fumigation either of cargo to be discharged, or of cargo in a silo before loading from where gas can be swept on board along with the cargo with no warning to the ship; and leakage of gases, whether poisonous or explosive, from adjacent holds or other spaces.

Where shore-side workers are involved the Confined Spaces Regulations 1997 (No. 1713) will apply. The HSE (or the HSE for Northern Ireland) has responsibility for matters involving those Regulations.

*14 Have the cargo handling capacity and any limits of travel for each loader/unloader been passed to the ship/terminal?*

The number of loaders or unloaders to be used should be agreed, and their capabilities understood by both parties. The agreed maximum transfer rate for each loader/unloader should be recorded in the checklist.

Limits of travel of loading or unloading equipment should be indicated. This is essential information when planning cargo operations in berths where a ship must be shifted from one position to another due to loading. Gear should always be checked for faults and that it is clear of contaminants from previous cargoes. The accuracy of weighing devices should be ascertained frequently.

**Guidance**

*15 Has a cargo loading and unloading plan been calculated for all stages of loading/deballasting or unloading/ballasting?*

Where possible the ship should prepare the plan before arrival. To permit her to do so the terminal should provide whatever information the ship requests for planning purposes. On ships that require longitudinal strength calculations, the plan should take account of any permissible maxima for bending moments and shear forces.

The plan should be agreed with the terminal and a copy passed over for use by terminal staff. All watch officers on board and terminal supervisors should have access to a copy. No deviation from the plan should be allowed without agreement of the master.

According to SOLAS regulation VI/7, it is required to lodge a copy of the plan with the appropriate authority of the port State. The person receiving the plan should be recorded in the checklist.

**Guidance**

In this context, the MCA considers that “the appropriate authority of the port State” means the terminal operator.

*16 Have the holds to be worked been clearly identified in the loading or unloading plan, showing the sequence of work, and the grade and tonnage of cargo to be transferred each time the hold is worked?*

The necessary information should be provided in the form as set out in appendix 2 of this Code.

*17 Has the need for trimming of cargo in the holds been discussed, and have the method and extent been agreed?*

A well-known method is spout trimming, and this can usually achieve a satisfactory result. Other methods use bulldozers, front-end loaders, and deflector blades, trimming machines or even manual trimming. The extent of trimming will depend upon the nature of the cargo, and must be in accordance with the BC Code, i.e. the IMO Code of Safe Practice for Solid Bulk Cargoes last published in 2002, ISBN 92-801-5129-0.

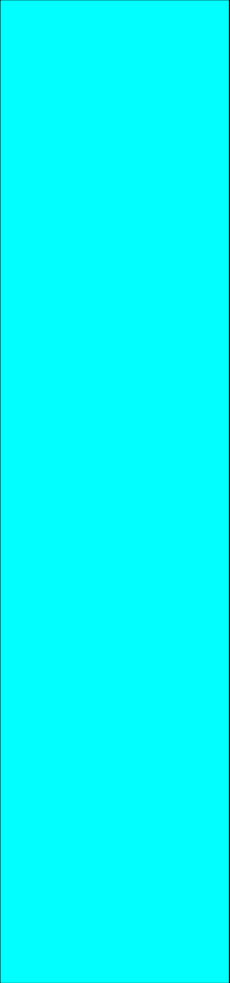
*18 Do both ship and terminal understand and accept that if the ballast programme becomes out of step with the cargo operations, it will be necessary to suspend cargo operations until the ballast operation has caught up?*

All parties will prefer to load or discharge the cargo without stops if possible. However, if the cargo or ballast programmes are out of step a stop to cargo handling must be ordered by the master and accepted by the terminal to avoid the possibility of inadvertently overstressing the ship's structure.

A cargo operations plan will often indicate cargo checkpoints, when conditions will also allow confirmation that the cargo and ballast handling operations are in alignment.

If the maximum rate at which the ship can safely accept the cargo is less than the cargo handling capacity of the terminal, it may be necessary to negotiate pauses in the cargo transfer programme or for the terminal to operate equipment at less than the maximum capacity.

In areas where extremely cold weather is likely, the potential for frozen ballast or ballast lines should be recognized.



*19 Have the intended procedures for removing cargo residues lodged in the holds while unloading been explained to the ship and accepted?*

The use of bulldozers, front-end loaders or pneumatic/hydraulic hammers to shake material loose should be undertaken with care, as wrong procedures can damage or distort ships' steel work. Prior agreement to the need and method intended, together with adequate supervision of operators, will avoid subsequent claims or weakening of the ship's structure.

*20 Have the procedures to adjust the final trim of the loading ship been decided and agreed?*

Any tonnages proposed at the commencement of loading for adjusting the trim of the ship can only be provisional, and too much importance should not be attached to them. The significance lies in ensuring that the requirement is not overlooked or ignored. The actual quantities and positions to be used to achieve final ship's trim will depend upon the draft readings taken immediately beforehand. The ship should be informed of the tonnage on the conveyor system since that quantity may be large and must still be loaded when the order "stop loading" is given. This figure should be recorded in the checklist.

*21 Has the terminal been advised of the time required for the ship to prepare for sea, on completion of cargo work?*

The procedure of securing for sea remains as important as it ever was, and should not be skimmed. Hatches should be progressively secured on completion so that only one or two remain to be closed after cargo work is finished.

Modern deep-water terminals for large ships may have very short passages before the open sea is encountered. The time needed to secure, therefore, may vary between day or night, summer or winter, fine weather or foul weather.

Early advice must be given to the terminal if any extension of time is necessary.

**Part 4**

**Part 4: Appendix 3 of the BLU Code**

**Ship/shore safety checklist for loading and unloading of dry bulk carriers**

Date .....

Port ..... Terminal/Quay.....

Available depth of water in berth ..... Minimum air draught<sup>3</sup>.....

Ship's name .....

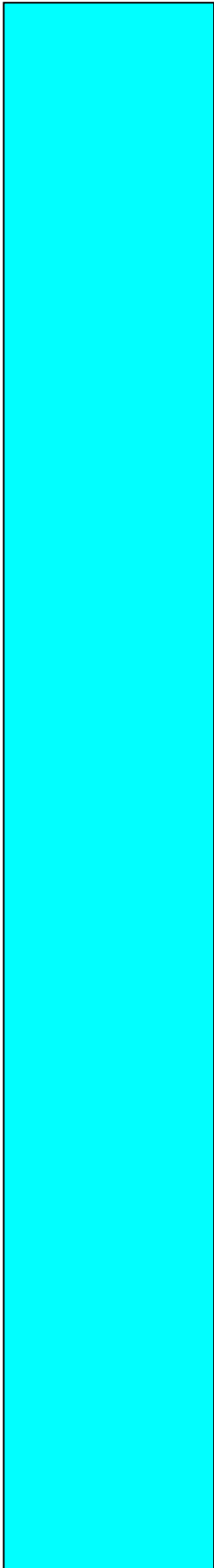
Arrival draught (read/calculated) ..... Air draught.....

Calculated departure draught ..... Air draught.....

The master and terminal manager, or their representatives, should complete the checklist jointly. Advice on points to be considered is given in the accompanying guidelines. The safety of operations requires that all questions should be answered affirmatively and the boxes ticked. If this is not possible, the reason should be given, and agreement reached upon precautions to be taken between ship and terminal. If a question is considered to be not applicable write "N/A", explaining why if appropriate.

		<b>SHIP</b>	<b>TERMINAL</b>
1	Is the depth of water at the berth, and the air draught, adequate for the cargo operations to be completed?	<input type="checkbox"/>	<input type="checkbox"/>
2	Are mooring arrangements adequate for all local effects of tide, current, weather, traffic and craft alongside?	<input type="checkbox"/>	<input type="checkbox"/>
3	In emergency, is the ship able to leave the berth at any time?	<input type="checkbox"/>	<input type="checkbox"/>
4	Is there safe access between the ship and the wharf? <i>Tended by ship/terminal</i> ..... (cross out as appropriate)	<input type="checkbox"/>	<input type="checkbox"/>
5	Is the agreed ship/terminal communications system operative? <i>Communication method</i> ..... <i>Language</i> ..... <i>Radio channels/phone numbers</i> .....	<input type="checkbox"/>	<input type="checkbox"/>
6	Are the liaison contact persons during operations positively identified? <i>Ship contact persons</i> ..... <i>Shore contact person(s)</i> ..... <i>Location</i> .....	<input type="checkbox"/>	<input type="checkbox"/>
7	Are adequate crew on board, and adequate staff in the terminal, for emergency?	<input type="checkbox"/>	<input type="checkbox"/>
8	Have any bunkering operations been advised and agreed?	<input type="checkbox"/>	<input type="checkbox"/>

<sup>3</sup> The term *air draught* should be construed carefully: if the ship is in a river or an estuary, it usually refers to maximum mast height for passing under bridges, while on the berth it usually refers to the height available or required under the loader or unloader.



		<b>SHIP</b>	<b>TERMINAL</b>
9	Have any intended repairs to wharf or ship whilst alongside been advised and agreed?	<input type="checkbox"/>	<input type="checkbox"/>
10	Has a procedure for reporting and recording damage from cargo operations been agreed?	<input type="checkbox"/>	<input type="checkbox"/>
11	Has the ship been provided with copies of port and terminal regulations, including safety and pollution requirements and details of emergency services?	<input type="checkbox"/>	<input type="checkbox"/>
12	Has the shipper provided the master with the properties of the cargo in accordance with the requirements of chapter VI of SOLAS?	<input type="checkbox"/>	<input type="checkbox"/>
13	Is the atmosphere safe in holds and enclosed spaces to which access may be required, have fumigated cargoes been identified, and has the need for monitoring of atmosphere been agreed by ship and terminal?	<input type="checkbox"/>	<input type="checkbox"/>
14	Have the cargo handling capacity and any limits of travel for each loader/unloader been passed to the ship/terminal? <i>Loader</i> ..... <i>Loader</i> ..... <i>Loader</i> .....	<input type="checkbox"/>	<input type="checkbox"/>
15	Has a cargo loading or unloading plan been calculated for all stages of loading/deballasting or unloading/ballasting? <i>Copy lodged with</i> .....	<input type="checkbox"/>	<input type="checkbox"/>
16	Have the holds to be worked been clearly identified in the loading or unloading plan, showing the sequence of work, and the grade and tonnage of cargo to be transferred each time the hold is worked?	<input type="checkbox"/>	<input type="checkbox"/>
17	Has the need for trimming of cargo in the holds been discussed, and have the method and extent been agreed?	<input type="checkbox"/>	<input type="checkbox"/>
18	Do both ship and terminal understand and accept that if the ballast programme becomes out of step with the cargo operation, it will be necessary to suspend cargo operation until the ballast operation has caught up?	<input type="checkbox"/>	<input type="checkbox"/>
19	Have the intended procedures for removing cargo residues lodged in the holds while unloading, been explained to the ship and accepted?	<input type="checkbox"/>	<input type="checkbox"/>
20	Have the procedures to adjust the final trim of the loading ship been decided and agreed? <i>Tonnage held by the terminal conveyor system</i> .....	<input type="checkbox"/>	<input type="checkbox"/>
21	Has the terminal been advised of the time required for the ship to prepare for sea, on completion of cargo work?	<input type="checkbox"/>	<input type="checkbox"/>

THE ABOVE HAS BEEN AGREED:

Time ..... Date .....  
 For ship ..... For terminal .....  
 Rank ..... Position/Title .....

**Schedule 6**

**SCHEDULE 6**

**REPAIR OF DAMAGE INCURRED DURING LOADING AND UNLOADING**

1. If damage to the ship's structure or equipment occurs during loading or unloading, it shall be reported by the terminal representative to the master and, if necessary, repaired.
2. If the damage could impair the structural capability or watertight integrity of the hull, or the ship's essential engineering systems, the Maritime and Coastguard Agency and the competent authority of the State whose flag the bulk carrier is entitled to fly, or an organisation recognised by it and acting on its behalf, shall be informed by the terminal representative and the master. The decision as to whether immediate repair is necessary or whether it can be deferred shall be taken by the MCA, due account being taken of the opinion, if any, of the administration of the flag State, or the organisation recognised by it and acting on its behalf, and of the opinion of the master. Where immediate repair is considered necessary, it shall be carried out to the satisfaction of the master and the MCA before the ship leaves the port.

**Guidance**

Contact with the administration of the flag State, as defined in this MCA document, may be easier for the master than for the terminal representative. Terminal representatives and masters may seek advice from the MCA on such matters if they arise. The MCA will also contact the relevant parties under Port State Control procedures.

MGN107 (m) Annex B 'Guidance to ships crews and terminal personnel for Bulk Carrier inspections' provides guidance to personnel not experienced in conducting inspections with respect to the principal areas on bulk carriers that are likely to be susceptible to corrosion or damage.

When dry docking facilities are needed and the port/terminal, in which the ship is found to be damaged, does not have such facilities, the ship may proceed to the nearest port with dry docking facilities, before resuming its voyage. Regulation 13(1) of the Merchant Shipping (Port State Control) Regulations 1995 (S.I. 1995/3128) allows for this.

Examples of the ship's essential engineering system are: the ability to close mechanical hatches properly, damage to bilge wells or pumping systems and mooring or anchoring equipment.

3. For the purpose of taking the decision referred to in paragraph 2, the Maritime and Coastguard Agency may rely upon a recognised organisation to undertake the inspection of the damage and to advise on the necessity of carrying-out repairs or their deferral.
4. The above requirements apply without prejudice to the Merchant Shipping (Port State Control) Regulations 1995 S.I. 1995/3128, as amended.

**Schedule 7**

**SCHEDULE 7**

**ROLE OF COMPETENT AUTHORITIES**

1. Without prejudice to the rights and obligations of the master provided under Regulation 10(7) of the Merchant Shipping (Carriage of Cargoes) Regulations (S.I. 1999/336), the MCA shall prevent or halt the loading or unloading of solid bulk cargoes whenever they have clear indications that the safety of the ship or crew would be endangered thereby.

**Guidance**

Further guidance is contained in the Code of Safe Working Practices for Merchant Seamen.

2. In cases where the MCA is informed of disagreement between the master and the terminal representative as to the application of the procedures provided for in Schedule 5, the MCA shall intervene where this is required in the interests of safety or the marine environment.

**Guidance**

In paragraph 2 intervention by the MCA is purely in relation to the safety of the ship and/or the environment and is not to act as arbitrator in commercial disagreements. If the master or the terminal operator feel that the requirements of this paragraph are not complied with they should contact the local MCA Marine office.

