



## **Loading and Unloading of Solid Bulk Cargoes**

The purpose of this Information Sheet is to advise all ship owners, operators and terminal operators of the requirements in Australia for the safe loading and unloading of solid bulk cargoes. This information sheet is to enhance and clarify any issues with the BLU Code and Marine Order Part 34, and provides additional guidance.

The requirements for the loading and unloading of bulk cargoes is mandated by Chapter VI of SOLAS.

Mandatory application in Australia is implemented through delegated legislation adopted by the Australian Maritime Safety Authority (AMSA) under the *Navigation Act 1912*.

This delegated legislation is known as *Marine Order Part 34 Solid Bulk Cargoes (MO34)*.

MO34 can be accessed from the AMSA website at: [www.amsa.gov.au/shipping\\_safety/marine\\_orders/Marine\\_Orders\\_currently\\_in\\_force.asp](http://www.amsa.gov.au/shipping_safety/marine_orders/Marine_Orders_currently_in_force.asp)

All requirements of SOLAS chapter VI are to be complied with by the owners or operators of vessels carrying solid bulk cargoes.

### **WHAT IS THE ISSUE?**

The International Maritime Organization's Maritime Safety Committee has noted concerns that the provisions of SOLAS chapter VI, regulation 7 (Loading, unloading and stowage of solid bulk cargoes), and the Code of Practice for the Safe Loading and Unloading of Bulk Carriers (BLU Code) are not being universally applied. In particular, the Committee noted that these concerns may be attributed to the lack of a mutual agreement between

terminal representatives and masters on appropriate loading and unloading rates for solid bulk cargoes to prevent over-stressing of the ship's structure. In addition, the Committee noted that an agreed loading/unloading plan between the terminal representative and master is a mandatory requirement under SOLAS chapter VI, regulation 7.3

### **WHAT IS THE BLU CODE?**

This Code of Practice for the Safe Loading and Unloading of Bulk Carriers has been developed by the International Maritime Organization to minimize losses of bulk carriers.

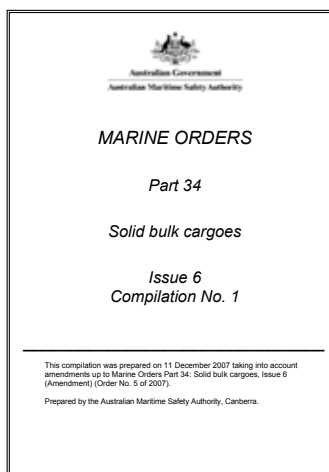
The purpose of the Code is to assist persons responsible for the safe loading or unloading of bulk carriers to carry out their functions and to promote the safety of bulk carriers.

The Code primarily stems from an Australian initiative taken to the International Maritime Organization. It was subsequently developed in consultation with, and the support of, Australian industry bodies including shipowners, the mining industry (represented by the Minerals Council of Australia) and bulk cargo terminal operators. AMSA gratefully acknowledges the active and ongoing assistance of these parties in the development of the Code.

The Code is important as it addresses the critical issue of safety of bulk carriers in ports, whereas other IMO measures are primarily concerned with the safety of bulk carriers at sea. It provides a realistic and pragmatic risk management framework and covers all solid bulk cargoes except grain.

Guidance on such matters as the suitability of ships, procedures between ships and shore organisations, cargo transfer and ballast handling is included in the Code.

Copies of the "Code of Practice for the Safe Loading and Unloading of Bulk Carriers" can be accessed from the AMSA website at: [www.amsa.gov.au/Publications/index.asp](http://www.amsa.gov.au/Publications/index.asp) under the Shipping section.<sup>1</sup>



<sup>1</sup>Code of Practice for the Safe Loading and Unloading of Bulk Carriers (Res. A.862 (20)), which was adopted by the IMO in November 1997 and amended by MSC.238(82) effective from the 1st of January 2007.

## 1. Selection of Ships

It is essential that a ship selected to transport a solid bulk cargo be suitable for its intended purpose taking into account the terminals at which it will load or unload.

It is important that the ship be provided with information about a terminal so the loading or unloading can be planned. Similarly, the terminal will need information about the ship to enable preparations to be made to load or unload the ship. This information exchange needs to take place in sufficient time to allow preparations to be made.

The requirements of individual terminals and port authorities should be published in terminal and port information books. The type of information usually given in these books is listed in appendix 1 of the BLU Code and should be given to the masters of ships where possible before or on arrival at a port or terminal.

## 2. What are the requirements under Marine Orders Part 34 & BLU

**MO 34 section 11.4** *Before a solid bulk cargo is loaded or unloaded, the master and the terminal representative must agree on a plan which must ensure that the permissible forces and moments on the ship are not exceeded during loading or unloading, and must include the sequence, quantity and rate of loading or unloading, taking into consideration the speed of loading or unloading, the number of pours and the deballasting or ballasting capability of the ship.<sup>2</sup> The plan and any subsequent amendments thereto must be lodged with the terminal representative at the port of loading or unloading and a copy retained on board the ship throughout the voyage.*

This fulfils the requirement under SOLAS chapter VI regulation 7.3, that the plan and any subsequent amendments thereto shall be lodged with the appropriate authority of the port State.

## 3. How Solid Bulk Cargoes are to be loaded/unloaded

Before loading or unloading commences there should be an agreement between the master and the terminal representative covering the loading or unloading operation and including details of the order in which the cargo is to be distributed so as to achieve the final loading or unloading plan.

**SOLAS VI reg 7.4** *The master and terminal representative shall ensure that loading and unloading operations are conducted in accordance with the agreed plan.*

**MO 34 section 11.10** The master and terminal representative must ensure, each within his or her areas of responsibility, that loading and unloading operations are conducted in accordance with the agreed plan, referred to in 11.4.

**MO 34 section 11.6** The master of a ship must not permit solid bulk cargo to be loaded onto, or unloaded from, the ship until 11.4 has been complied with.

**Note: While the requirements for the agreed plan are contained in MO 34 11.4, it is the expectation that both the master and terminal representative sign the plan to indicate their agreement with the plan.**

## 4. Loading Rates

While a terminal may have a high nominal loading rate (the pour rate that can be achieved by the loading equipment), the total time taken for loading and the number of pours will also be influenced by the steps required to safely load a ship in order to keep the structural stresses within permissible limits.

The characteristics of the loading equipment, including the terminal's nominated loading rate and the number of loading heads to be used shall be informed to the ship in order to develop an appropriate plan.

The total time to load and the nominated loading rate must be agreed to in advance of loading and must take into account the safe operational limits of the ship and the terminal. This agreement must be a part of the loading plan required under SOLAS chapter VI, regulation 7.3, and should also be in line with the provisions of the BLU Code

Any changes including the numbers of loaders available, the actual loading rate and deballasting requirements that may get out of phase with loading operation need to be communicated at the earliest opportunity. Any changes needed to the previously agreed plan shall be agreed by the terminal and master before the changes occur.

<sup>2</sup>A plan should conform as far as possible with the BLU Code. Reference should also be made to the Manual on Loading and Unloading of Solid Bulk Cargoes for Terminal Representatives (BLU Manual), published by IMO as MSC/Cir.1160, as amended by MSC.1/Circ.1230. The BLU Manual supplements the BLU Code and is intended to provide more detailed guidance to terminal representatives and others involved in the handling of solid bulk cargoes, including those responsible for training of personnel.

## 5. Terminal Representatives

Amendments to SOLAS Chapter VI, which enter into force internationally on 1 July 1998, provide for a terminal representative to be appointed and make reference to the Code. The recommendations of the Code include guidance on the functions of the terminal representative in relation to good practice and the loading and unloading of solid bulk cargoes.

Most Australian terminals have staff whose duties include managing the interface with the ship and would satisfy the terminal representative requirement. Terminal personnel should be trained in all aspects of safe loading and unloading of bulk carriers, commensurate with their responsibilities.

## 6. Masters Responsibility

The master is responsible at all times for the safe loading and unloading of the ship, the details of which should be confirmed to the terminal representative in the form of a loading or unloading plan.

They are to ensure that the terminal representative is made aware of the requirements for harmonization between ballast operations and cargo loading/unloading rates for their ship and the time required for the ballasting operation.

Ballast operations need to be synchronized with loading/unloading operations as laid down and agreed in the plan required under SOLAS chapter VI, regulation 7.3. Ballast and loading/unloading operations should be carried out in a controlled manner in accordance with the loading/unloading plan and the provisions of BLU Code.

The Ships' staff is to continuously monitor the plan by observing the actual drafts at the end of each sequence/pour and comparing these with those in the calculated plan. These need to be recorded in a cargo log book to comply with SOLAS chapter VI regulation 7.6.

If at any time during loading the safe operational limits of the ship are exceeded, or likely to become so if the loading continues, the master has the right to suspend loading operations in order to take corrective actions (see SOLAS chapter VI, regulation 7.7).