INTERNATIONAL MARITIME ORGANIZATION

IMO

E

SUB-COMMITTEE ON STANDARDS OF TRAINING AND WATCHKEEPING
35th session
Agenda item 2

STW 35/2
8 September 2003
Original: ENGLISH

DECISIONS OF OTHER IMO BODIES

Decisions of the seventy-seventh session of the Maritime Safety Committee

Note by the Secretariat

SUMMARY

Executive summary:	This document lists the decisions of the seventy-seventh session of the Maritime Safety Committee, which are of relevance to the Sub-Committee's work
Action to be taken:	Paragraph 4
Related documents:	MSC 77/26 and addendum, BLG 8/WP.4

Introduction

1 The Maritime Safety Committee (MSC) held its seventy-seventh session from 28 May to 6 June 2003. Decisions taken by the Committee with respect to the outcome of STW 34 are referred to in paragraph 2. Other decisions taken by the Committee relevant to the work of the Sub-Committee are referred to in paragraph 3. The Sub-Committee's work programme, as revised and approved by the Committee is attached at annex 1.

Outcome of STW 34

2 The sub-paragraph numbers below are the paragraph numbers in the report of MSC 77 (MSC 77/26). References in brackets are to items in the Sub-Committee's provisional agenda for this session (STW 35/1).

Updating of the list of confirmed STCW Parties at regular intervals

12.2 The Committee noted the Sub-Committee's view that amendments to the STCW Convention or Code for the purpose of updating the list of confirmed STCW Parties at regular intervals were unnecessary.

12.3 The Committee further noted the Sub-Committee's consideration of methods for promulgating information updating the list of confirmed STCW Parties in general and approved the proposed procedures, taking into account that, at this stage, they were tentative and that they may be revised in the light of experience. The Committee also endorsed the views of the Sub-Committee that any information on the outcome of the

process should not be promulgated until MSC 80 (May/June 2005) and that the presentation of information on the outcome of the evaluation process should be in the format agreed by the Sub-Committee (STW 34/14, paragraph 4.16, Table 1).

Amendments to the STCW Code in respect of the term 'as amended in 1995'

12.4 The Committee approved:

.1 the proposed draft amendments to STCW Code Part A concerning deletion of the term 'as amended in 1995' and the associated MSC resolution, as set out in annex 15, and requested the Secretary-General to circulate them in accordance with STCW article XII, for consideration with a view to adoption at MSC 78 and entry into force on 1 July 2006; and

.2 the related proposed draft amendments to STCW Code Part B and the associated STCW.6 circular, to become operative on the same date as the entry into force date of the aforementioned amendments to STCW Code Part A.

Watchkeeping at anchor (Agenda item 4)

12.5 The Committee instructed the NAV Sub-Committee to provide advice on the conditions and circumstances upon which a decision may be made for the purpose of maintaining a continuous navigational watch at anchor, to enable the Sub-Committee to develop appropriate guidance to masters.

Unlawful practices associated with certificates of competency (Agenda item 5)

12.6 The Committee endorsed the Sub-Committee's decision to instruct the Secretariat to prepare a questionnaire for circulation to STCW Parties to collect information on current national database standards, record systems and anti-fraud measures and to report the results to STW 35 in order that measures being implemented by Parties to restrict the proliferation of counterfeit and fraudulently-issued certificates may be identified and, having considered document MSC 77/WP.9, approved MSC/Circ.1088 on Questionnaire on national database standards, record systems and anti-fraud measures.

12.7 The Committee approved MSC/Circ.1089 on Guidance on recommended anti-fraud measures and forgery prevention features for seafarers' certificates and MSC/Circ.1090 on Guidance for administrations, shipping companies, masters and manning agents for detecting and preventing unlawful practices associated with certificates.

Large passenger ship safety (Agenda item 6)

12.8 In the context of further action pursuant to resolution 3 of the 2002 SOLAS Conference on Maritime Security, the Committee agreed to amend, at this session, for submission to A 23 for adoption, resolution A.890(21) in respect of the additional shipboard duties resulting from the new security provisions only. The Committee did not therefore endorse the Sub-Committee's request to include consideration of the crew's ability for dealing with multiple emergencies simultaneously in the latter's agenda for

STW 35, as the Sub-Committee had not been requested to undertake the review of the resolution.

12.9 The Committee approved STCW.6/Circ.6 on Amendments to section B-V/3 of the STCW Code to provide additional guidance to administrations, shipping companies and training institutions regarding training of seafarers of large passenger ships in advanced fire-fighting and damage control.

12.10 The Committee invited the FSI Sub-Committee, the FSI Correspondence Group on Casualty Analysis and Member Governments to provide casualty analysis and port State control information; and non-governmental organizations to provide training information on the impact of training or levels of training on casualties.

Measures to enhance maritime security (Agenda item 9)

12.11 The Committee recalled that it had noted the Sub-Committee's consideration of training in the use of shipboard AIS; the course frameworks and outlines for the proposed model courses for ship security officer (SSO), Company security officer (CSO) and port facility security officer (PFSO); the terms of reference and project milestones for the course developers and the establishment of a validation panel, under agenda item 6 (Measures to enhance maritime security).

12.12 The Committee noted information provided by the Secretariat that draft model courses had been received from the developers on 30 May 2003 and had already been circulated, by e-mail, to members of the validation panel for scrutiny.

Draft Assembly resolution to revoke resolution A.474(XII)

12.14 The Committee noted the Sub-Committee's consideration of the draft Assembly resolution on Proper use of VHF channels at sea to revoke resolution A.474(XII) and approved its submission to the twenty-third session of the Assembly for adoption.

Transfer of ILO provisions to the STCW Convention (Agenda item 13)

12.15 In considering the request from ILO for IMO's agreement, in principle, to the possible transfer of ILO provisions on able seamen (MSC 77/12/4) to the STCW Convention, a number of delegations expressed the view that further analysis of the policy issues that might arise from such a transfer and needed to be considered before IMO agreed to undertake the task. One delegation drew attention to the additional administrative burden that would arise on STCW Parties, competent persons and the Secretariat through communication of information under STCW article IV and regulation I/7 on training requirements for able seamen.

12.16 The majority of delegations which spoke did not agree to the aforementioned ILO request, as they considered it premature to do so. The Committee agreed, however, that the Sub-Committee should consider the outcome of the ILO discussions on the Certification of Able Seamen Convention, 1946 (No.74); the existing ILO provisions and the specific competences for training and certification of able seamen which might be included in the STCW Convention, in order that a fuller analysis of the situation could be made; and to report the outcome of its discussions to MSC 78.

Issues to be considered when introducing new technology on board ship

12.17 In considering a proposal by the Marshall Islands (MSC 77/12/3), the Committee noted that, in the context of large passenger ship safety, a draft circular on issues to be considered when introducing new technology on board ship had been considered but not endorsed by the Sub-Committee as it was relevant to all ships and not just to large passenger ships. In response to an invitation by the Sub-Committee for interested delegations to submit revised proposals, the Marshall Islands had submitted a revised draft. After consideration, the Committee approved MSC/Circ.1091 on Issues to be considered when introducing new technology on board ship.

Other decisions

3 Other decisions taken by the Committee relevant to the work of the Sub-Committee are listed below. The sub-paragraph numbers are the paragraph numbers in the report of MSC 77 (MSC 77/26). References in brackets are to items in the Sub-Committee's provisional agenda for this session (STW 35/1).

Preparation of reports pursuant to STCW regulation I/7, paragraph 2

12.20 The Committee noted the progress made on the evaluation of information communicated by STCW Parties as at 17 March 2003 (MSC 77/12/1), and further noted that, at the end of MSC 76, the so-called 'white list', consisted of 71 Parties confirmed by MSC 73; 23 Parties confirmed by MSC 74; 8 Parties confirmed by the Committee's first extraordinary session; 4 Parties confirmed by MSC 75; and 2 Parties confirmed by MSC 76, giving a total of 108 Parties, out of a total of 144 STCW Parties, as promulgated by MSC/Circ.1066.

12.27 The Committee confirmed that the procedures for the assessment of information provided had been correctly followed in respect of three STCW Parties included in the Secretary-General's report (MSC 77/WP.3) and approved MSC/Circ.1092 on Parties to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) 1978, as amended, confirmed by the Maritime Safety Committee to have communicated information which demonstrates that full and complete effect is given to the relevant provisions of the Convention, listing all the STCW Parties so far confirmed.

Approval of competent persons

12.28 The Committee approved additional competent persons nominated by Governments (MSC 77/12/2 and Add.1); and instructed the Secretariat to update MSC/Circ.797/Rev.8 accordingly and issue the updated circular as MSC/Circ 797/Rev.9.

Guidance on early abandonment of bulk carriers (Agenda item 2)

5.8 The Committee noted that DE 46 (DE 46/32, paragraph 19.8 and annex 19) had referred a draft MSC circular on Guidelines on early assessment of hull damage and possible need for abandonment of bulk carriers to NAV 49 and STW 35 for concurrence prior to approval by MSC 78. The draft MSC circular is given at annex 2.

Proposed IMO model audit scheme (Agenda item 2)

7.13 The Committee approved the group's recommendation on the inclusion, in the scheme, of the 1978 STCW Convention, as amended; that the scheme should not seek to duplicate the existing mandatory audit requirements contained in that Convention; and that only those aspects of that Convention which were not covered by audits in accordance with the applicable provisions of that Convention should fall fully within the scope of the scheme as well as verification (only) of those parts of that Convention which had been previously evaluated.

Transportation of cargoes containing toxic substances (Agenda item 2)

14.4 The Committee endorsed the BLG Sub-Committee's course of action on requirements for the protection of personnel involved in the transport of cargoes containing toxic substances in all types of tankers, in particular to:

.1 forward the draft Guidelines on the basic elements of a shipboard occupational health and safety programme, as contained in document BLG 8/WP.4, to the COMSAR, DE, FP, FSI, SLF and STW Sub-Committees for consideration so that they could comment or make proposals, as appropriate;

.2 further consider, at BLG 9, the submission by Norway, INTERTANKO, OCIMF and ITOPF (BLG 8/9/1), proposing the development of mandatory requirements for the carriage and use of safety data sheets, and inform the STW Sub-Committee accordingly so that the two sub-committees could comment or make proposals, as appropriate; and

.3 instruct the Secretariat to communicate with ILO and WHO seeking their contribution to this work.

The relevant text on the basic elements of a shipboard occupational health and safety programme from the draft guidelines are given at annex 3.

Large passenger ship safety (Agenda item 6)

4.3 In considering the outcome of COMSAR 7, the Committee's attention was drawn to 35 recommendations, which had been endorsed by COMSAR 7 and had been forwarded to the Committee for consideration, several of which addressed life-saving arrangement and training issues falling under the purview of the DE and STW Sub-Committees, respectively. In view of the fact that the working group to consider large passenger ship safety matters would not be convened at this session, the Committee instructed the COMSAR, DE and STW Sub-Committees to consider the said 35 recommendations with a view to providing comments on those of them which fall within their purview and, in particular, to advise MSC 78 on what action ought to be taken in their context.

Shipboard AIS training (Agenda item 9)

6.14 The Committee noted the Sub-Committee's request to Member Governments and organizations concerned to submit comments and proposals to STW 35 for consideration.

Revision of resolution A.890(21) (Agenda item 9)

6.84 The Committee approved the draft Assembly resolution on Amendments to Principles of Safe Manning (resolution A.890(21)), developed by the MSWG, for submission to the twenty-third session of the Assembly for adoption.

Training and certification (Agenda item 15)

6.81 In considering training and certification for maritime security, the Committee agreed that, as an interim measure, the ISSC would be accepted as *prima facie* evidence that training has been conducted in accordance with the ISPS Code. The flag State was responsible for deciding how that training was to be conducted, and if any additional certification was required. If port State control detected a lack of training, it could take further action. The Committee anticipated that States would develop and introduce further measures after 1 July 2004, which may include the introduction of individual certificates or other documentary evidence of training.

6.82 The Committee agreed that in the long-term certification was required and instructed STW 35 to develop with high priority, training and certification requirements for SSOs in the longer term and to consider all possible options. The Committee further agreed to include a high priority item in the Sub-Committees' work programme and the agenda for STW 35 on the development of training requirements for Company security officers and port facility security officers and for certification, if appropriate.

Action requested of the Sub-Committee

4 The Sub-Committee is invited to note the above information and to take action as appropriate.

***

ANNEX 1

WORK PROGRAMME

SUB-COMMITTEE ON STANDARDS OF TRAINING AND WATCHKEEPING (STW)

		Target completion date/number of sessions needed for completion	Reference
1	**Validation of model training courses**	**Continuous**	STW 31/17, paragraph 14.4; STW 33/17, section 3
2	Casualty analysis (co-ordinated by FSI)	**Continuous**	MSC 70/23, paragraphs 9.17 and 20.4; MSC 77/26, paragraphs 18.10 and 23.40.2
H.1	**Watchkeeping at anchor**	2005	MSC 75/24, paragraph 22.46.2; STW 34/14, paragraph 11.7
H.2	**Unlawful practices associated with certificates of competency**	2005	MSC 71/23, paragraph 20.55.2; STW 34/14, section 5
H.3	**Large passenger ship safety**	2004	MSC 74/24, paragraph 21.4 ; STW 34/14 paragraph 11.10
H.4	**Training of crew in launching/ recovering operations of fast rescue boats and means of rescue in adverse weather conditions**	2004	MSC 74/24, paragraph 21.56; STW 34/14, paragraph 11.10
H.5	**Measures to prevent accidents with lifeboats** (co-ordinated by DE)	2005	MSC 74/24, paragraph 21.34; STW 34/14, paragraph 11.10

Notes: 1 "H" means a high priority item and "L" means a low priority item. However, within the high and low priority groups, items have not been listed in any order of priority.

2 Items printed in bold letters have been selected for the provisional agenda for STW 35, shown in annex 23.

Sub-Committee on Standards of Training and Watchkeeping (STW) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.6	**Measures to enhance maritime security**	2004	STW 33/17, paragraph 14.4; MSC 75/24, paragraphs 22.9 and 22.45
H.7	**Education and training requirements for fatigue prevention, mitigation and management**	2004	MSC 75/24, paragraph 22.48; STW 34/14, paragraph 11.11
H.8	**Requirements for knowledge, skills and training for officers on WIG craft**	2005	MSC 76/23, paragraph 20.55; STW 34/14, paragraph 11.12
H.9	**Development of requirements for training in ballast water management**	2005	MSC 71/23, paragraph 20.55.3; STW 34/14, paragraph 11.12
H.10	**Development of competences for ratings**	2005	STW 34/14, paragraph 11.11 ; MSC 77/26, paragraph 23.40.1
H.11	Training and certification requirements for Company and port facility security officers	2005	MSC 77/26, paragraphs 6.82 and 23.41
L.1	**Review of the implementation of STCW chapter VII**	2005	MSC 72/23, paragraph 21.56 ; STW 34/14, paragraph 11.12
L.2	Clarification of the STCW-F Convention provisions and follow-up action to the associated Conference resolutions	2 sessions	STW 34/14, paragraph 11.8

***

ANNEX 2

DRAFT MSC CIRCULAR

GUIDELINES ON EARLY ASSESSMENT OF HULL DAMAGE AND POSSIBLE NEED FOR ABANDONMENT OF BULK CARRIERS

1 The Maritime Safety Committee, at its seventy-sixth session (2 to 13 December 2002), considered recommendations for decision-making emanating from various formal safety assessment (FSA) studies on bulk carrier safety. In particular, the Committee agreed that a circular should be prepared addressing bulk carriers which may not withstand flooding of any one cargo hold and containing information on the action to be taken in case of flooding of such holds, making sure that the professional judgement of the master is not undermined, for possible posting in the bridge.

2 The Committee, at its [seventy-eighth session (… May 2004)], having considered the recommendations made by the Sub-Committee on Ship Design and Equipment at its forty-sixth session, the Sub-Committee on Safety of Navigation at its forty-ninth session and the Sub-Committee on Standards of Training and Watchkeeping at its thirty-fifth session, approved Guidelines on early assessment of hull damage and possible need for abandonment of bulk carriers, as set out in the annex.

3 Member Governments are invited to urge companies, as defined in the ISM Code, that operate bulk carriers flying their flag, to issue guidance, based on the annexed Guidelines, to the masters of such bulk carriers with a view to improving the precautionary measures and procedures for emergencies on board their ships.

ANNEX

GUIDELINES ON EARLY ASSESSMENT OF HULL DAMAGE AND POSSIBLE NEED FOR ABANDONMENT OF BULK CARRIERS

1 Provoked by the disappearance and loss of a number of bulk carriers from mid 1970s onwards the international shipping community has grown increasingly concerned that such ships are particularly vulnerable to rapid loss. Consequently, IMO has been taking action over the years to address the problem head on and find appropriate solutions to the problems identified. Among such actions, the Organization has adopted amendments to the 1974 SOLAS Convention, by introducing chapter XII in 1997 (amended in 2002), and other related provisions in chapter II-1, and has also amended the Guidelines on the enhanced programme of inspections during surveys of bulk carriers and oil tankers (resolution A.744(18)) on several occasions. More recently, a number of formal safety assessment (FSA) studies on bulk carrier safety have been carried out. From these studies the Maritime Safety Committee of IMO concluded at its seventy-sixth session in December 2002 that bulk carriers do deserve continued special attention and a number of measures were approved to address the issues identified, both structural and operational.

2 Records of bulk carrier losses indicated, in a large proportion of the cases studied, that ship's masters often appeared to be unaware of the imminent danger they were in. Many lost their lives together with the other seafarers on board as a consequence. Ship losses were frequently so rapid that the ship did not have time to send a distress signal.

3 The records studied show that in the event of loss of hull integrity, in many cases, bulk carriers should be evacuated as quickly as possible. EARLY ASSESSMENT OF THE SITUATION IS THEREFORE IMPERATIVE, COMBINED WITH ALERTING A MARITIME RESCUE CO-ORDINATION CENTRE, ALERTING ALL PERSONNEL ONBOARD AND MAKING PREPARATIONS FOR EVACUATION. This is of particular importance for single skin bulk carriers which may not be capable of withstanding flooding of any cargo hold.

4 Masters and operators should consider the following advice carefully with a view to improving their own precautionary measures and procedures for emergencies. The advice applies equally to ships other than bulk carriers when carrying dense cargoes.

Heavy cargoes

5 In most cases in which bulk carriers have been lost, heavy cargoes such as iron and other dense ores are a common factor. Ships are also vulnerable when carrying certain break-bulk cargoes such as steel products. This could include other ship types. The small volume taken up by the cargo in the ships' holds results in a large unoccupied space. This provides potential in a flooding scenario for large volumes of water to rapidly destroy the ship's residual buoyancy and, in the case of smaller vessels, its stability. Larger vessels are also highly susceptible to structural failure due to increases of weights caused by the influx of water.

6 Heavy cargoes place high loads on the structure, and structural failure is therefore more probable when subjected to the additional forces associated with flooding.

Structure

7 Deterioration of structure through corrosion, fatigue and damage is identified as a principal factor in the loss of many bulk carriers. Failing to identify such deterioration may lead to sudden and unexpected failure. Bulk carrier crews may be unaware of the vulnerability of these vessel types. The consequential loss of a ship carrying heavy cargo can be expected to be very rapid, should a major failure occur.

Forward flooding

8 Spaces forward of the collision bulkhead will, in the event of flooding, significantly affect the trim of the ship and reduce freeboard at the bow. In extreme weather this further threatens the ship as green seas come inboard and impact on hatch covers and other fittings that protect the water or weathertight integrity of the ship. Shell plating in the region of the bow protects the fore peak tank and other spaces as do air pipes and ventilators. If any of them are damaged the ship's ability to resist further escalation of flooding is compromised.

Causes of damage and failure

9 Damage to side shell, externally through contact with docksides or tugs and, internally from impact by cargo dislodging equipment during discharge, can result in initiating fractures and/or fatigue of the structure. In single side-skin bulk carriers, bulkheads, trunks and ballast tank boundaries, can present "hard spots" that concentrate forces where the change in construction occurs (e.g. longitudinal to transverse framing). This may lead to undetected fractures.

10 Internal degradation through corrosion may be accelerated through chemical action from certain cargoes. Welds in particular may be subject to "grooving" corrosion, in which the material forming the weld corrodes at a faster rate than the plating to which it is attached. Fatigue failure may result due to loss of cross-sectional area in the plating joints.

11 In ballast holds, sloshing forces due to partially filled spaces (such as may occur when changing ballast for environmental reasons) may result in damage to the structure. This damage may go unnoticed if it is in inaccessible positions. Sloshing is also a known cause of secondary damage after a space has become flooded.

12 Damage to bow plating such as is possible through impacts associated with swinging or loosely stowed anchors may cause an initiating fracture or fatigue in bow shell plating that could lead to failure and subsequent flooding. Internal integrity of forward spaces (that are usually used for ballast and/or stores) is therefore of vital importance. Corrosion degradation will seriously reduce the ability of plating and stiffening to withstand the forces to which it will be subjected. In larger ships, partially filled forepeak tanks may set up destructive sloshing forces unless the tank structure is designed for this.

13 External forces – horizontal and/or vertical - may cause hatch cover dislodgement. The cargo hatchway, if it loses its protection in this way, is a major access for water ingress and a serious threat to the integrity of the hull.

Early assessment

14 When it occurs or is likely to occur, masters should quickly assess damage to their ships by being alert to water ingress and its consequences. The following guidelines are given to assist them in this assessment.

Unusual motion or attitude

15 If a ship takes on an unusual trim or heel, or if her motions become changed, breach of the hull envelope should be suspected immediately:

- Unusual collections of water on decks may be indicating trim or heel abnormality.

- Sudden changes of heel or trim will indicate flooding or in smaller ships with lighter cargoes it may indicate cargo shift.

- Jerky lateral motions can be indicative of large scale sloshing as would be the case if a hold were flooded.

- On smaller ships, slowing of the ship's roll period may indicate excessive water within the hull - a serious threat to stability. Ships fitted with GM meters should be able to identify any unexpected changes in GM.

- Increases of water boarding forward decks may indicate flooding of a forward compartment. Trim and freeboard changes are notoriously difficult to assess from an after bridge.

16 **Methods of detection**

- Hatch covers may be dislodged by pressure and/or sloshing from within a hold if flooding occurs through side shell or bulkhead.

- Sudden pressurisation of compartments adjoining those that are damaged or flooded will indicate failure of internal subdivision, most notably bulkheads.

- Spaces may be monitored, either using gauging or bilge/water level alarms[1]. Forward store spaces can also be monitored audibly using "talkback" telephones that may be fitted in forward spaces. Anchor impacts and water in the space can be detected using telephones of the type that remain active until switched off from the bridge.

- Hull Stress Monitors, where fitted, may be able to detect unexpected longitudinal hull girder bending. Torsional stresses may also be detected through differential changes between port and starboard strain gauges.

[1] IMO has now mandated the fitting of water level detectors for all bulk carriers. Owners are urged to fit such equipment ahead of the date of implementation (1 July 2004).

- Visual monitoring from the bridge using binoculars, where fitted, by closed circuit television, can give indication of abnormal water on deck and local damage. However, assessment of trim or freeboard using this method is difficult.

- Assessment of trim changes can in certain conditions be detected by noting the level of the horizon, when visible, against a known reference point on the foremast.

- Draught and trim can be assessed using draught gauges. Changes are much more discernible using this method than by visual means from above decks.

Early readiness for evacuation

17 In the event of identifying or even suspecting that the ship may have sustained damage, ship's personnel should immediately be called to their emergency stations. A HIGH PRIORITY SHOULD BE PLACED ON PREPARING EQUIPMENT FOR EVACUATION. Abandonment should however only be invoked on the spoken orders of the master following assessment of the risk.

18 Contact with a Maritime Rescue Co-ordination Centre (MRCC) and/or owners should be made early if the master has any suspicion that the ship is damaged. An URGENCY signal is justified and this should be upgraded to DISTRESS if the ship is confirmed as damaged.

Training

19 Masters should place a strong emphasis on evacuation training so that donning of protective suits and lifejackets, launching of survival craft, and operation of EPIRBs and SARTs is a familiar process to all ships' personnel. Also included should be shutdown procedures for main and auxiliary machinery, which can, if left running, hinder launching of survival craft.

Investigation

20 Masters may wish to investigate any suspected water ingress more closely but preparations for evacuating the ship should be made WITHOUT DELAY and concurrent with any investigation. Remote methods of observation are preferable to sending personnel onto decks, particularly in bad weather and/or at night. Deck floodlights should be used if necessary to try and identify abnormalities. Detrimental effects on watchkeepers' night vision are of secondary importance in such circumstances.

21 In circumstances deemed justifiable for sending personnel onto decks that may be frequently awash with green water, at least two personnel should go to investigate. They should wear harnesses that attach them to a lifeline and to each other and should be in constant (radio) communication with the bridge. Each harness should be provided with two easily operated clips so that wearers are always attached to the ship's structure, even when passing across from one lifeline or structural attachment to another. Lifelines on both sides of the deck should be rigged at all times and progress along the deck should always be via the lee or sheltered side. When weather conditions deteriorate is not the time to begin rigging such measures. Fencing or shipside rails alone should not be relied upon without attachment by harness.

22 Personnel should **not** be sent onto decks that are being regularly submerged or deeply awash. In such circumstances the ship should be regarded as in imminent danger and priority should be given to preparations for evacuation.

Collision

23 In the event of a collision in which a ship loaded with dense cargo[2] is struck by another vessel, masters should call the ship's personnel to emergency stations with a strong emphasis on preparing to evacuate the ship. Older designs of bulk carriers and small ships with fewer holds are particularly prone to sudden progressive flooding if the damage occurs abaft any strengthened bulkheads in the forward part of the ship. In traffic separation zones this type of collision is more probable as most close encounters are likely to be due to misjudged overtaking or crossing manoeuvres. Bulk carriers are usually slower, less manoeuvrable and as a consequence, more exposed to being struck by other vessels, particularly from astern.

Safety and survival

24 In the circumstances highlighted above, particular emphasis has been placed on being ready for early evacuation or abandonment of the vessel. For ships carrying high-density cargoes this is of importance while they are at sea. There may however be cases where abandonment may be the worst option and for bulk carriers as with other ship types this is most probably true in the event of grounding. In close proximity to shore, and especially in bad weather, life-saving craft launched from the ship are unlikely to save the occupants from the perils of the shoreline and the process of launching the craft probably carries much greater danger than remaining on board. Again, early contact with a Maritime Rescue Co-ordination Centre is important and the master should not hesitate to broadcast an Urgency or Distress. The ship is better able to stay above water when it is already aground and although it may be severely damaged or broken in two, the accommodation blocks in such strandings usually survive long enough for helicopter evacuation, as organised and co-ordinated by the Maritime Rescue Co-ordination Centre, when weather conditions abate.

25 The master should be the one who decides on whether or not the ship should be abandoned. This guidance is provided to assist the master in making that decision and is based on the overriding principle that human life is more important than property.

26 Companies are reminded that emergency contingency planning forms an integral part of the International Safety Management Code required by SOLAS chapter IX. They should therefore assess the actual risk to their ships with consideration of the information given in these Guidelines and provide in their Safety Management System appropriate advice to assist the master in assessing the action to take in a situation involving flooding of the ship.

***

[2] Dense cargo should be understood as bulk ores that do not contact sides or bulkheads but should also include certain break-bulk cargoes such as steel products, which share similar characteristics.

ANNEX 3

GUIDELINES ON THE BASIC ELEMENTS OF A SHIPBOARD OCCUPATIONAL HEALTH AND SAFETY PROGRAM

(Relevant text)

3 Basic elements

3.1 Executive Management commitment and leadership. Executive management commitment and leadership is a precondition for an effective SOHSP. Executive management commitment and leadership includes, but is not limited to: (a) integrating health and safety into the management structure and fabric of the company; (b) developing a health and safety policy; (c) developing health and safety objectives; (d) providing resources to achieve the objectives; (e) defining stewardship responsibilities, and providing authority to carry out those responsibilities, and (f) establishing accountability for health and safety as a part of job performance reviews. Further guidance is provided in appendix 1.

3.2 Employee participation. Employees from all levels including crew members, officers, masters, persons in charge, and shore-side personnel should be directly involved with the SOHSP. Shipboard and shore-side employees should be involved in developing, implementing, evaluating, and modifying the SOHSP. Employees should also participate in setting health and safety objectives and performance criteria. This involvement might be through employee membership on safety committees that provide input to management for the development of health and safety policy, debate and set health and safety goals, measure and evaluate performance, and recommend modifications to the programme based on their evaluation. Shore-side and shipboard employees should work together to achieve health and safety goals. For example, shore side personnel should participate on vessel safety committees since their decisions affect vessel operations and ultimately the health and safety of vessel personnel. In large companies, individual vessel safety committees might submit recommendations to an overarching safety committee that evaluates the recommendations and sets policy to apply appropriate recommendations to the entire fleet. Further guidance is provided in appendix 2.

3.3 Hazard anticipation, identification, evaluation and control. The core function of any health and safety programme is prevention. Health and safety hazards including fire, reactivity, chemical and physical hazards need to be anticipated and prevented from occurring. Hazards and unsafe operating procedures need to be identified and addressed so they will not endanger employees or the public, and will not damage the vessel, cargo or third party property. Potential hazards should be systematically anticipated, identified, evaluated and controlled. Tools such as job hazard analysis, industrial hygiene exposure assessments, and risk assessment/management methodologies enable the evaluation and control of hazards. Further guidance is provided in appendix 3.

3.4 Training. Employees should receive training appropriate for their duties and responsibilities so that they may work safely and not endanger their shipmates or the public. In addition, employees who have specific health and safety responsibilities (generally supervisors with responsibility for the safety of others, but also non-supervisors who are assigned to safety committees or as crew member representatives) should receive training to enable them to carry

out their health and safety programme responsibilities. Further guidance is provided in appendix 4.

3.5 Record keeping. Company records sufficient to demonstrate the effectiveness of the health and safety programme should be maintained. Data that enables trend or pattern analysis for root causes is particularly desirable. For example, results of audits that evaluate effectiveness of the health and safety management system should be maintained. Records that indicate industrial hygiene exposure assessments have been conducted and appropriate controls have been implemented should be maintained. Current job safety analyses and corresponding standard operating procedures with safe work practices should be documented. Injury and illness data should be maintained to enable the identification of trends and patterns that associate the injury or illness with a common cause, which can be addressed. Training topics, lesson outlines and attendees should be documented. Where appropriate, such records should permit evaluation of the programme on individual vessels as well as across an entire fleet. Further guidance is provided in appendix 5.

3.6 Contract or third party personnel. When contract or third party personnel are on board to perform work, vessel personnel should provide information regarding potential hazards on the vessel that may affect the contract or third party personnel. Potential hazards related to the work conducted by contract or third party personnel should be provided to the vessel owner/operator and/or the master/person-in-charge. Each employer should provide appropriate information regarding vessel and work hazards to their own employees. For example, exchange of information on chemical hazards might be accomplished by exchanging appropriate safety data sheets (SDS), then each employer can inform their own employees of the hazards identified in the SDS. Further guidance is provided in appendix 6.

3.7 Fatality, injury, illness and incident investigation. Personnel injuries, occupational illnesses, and "near miss" incidents should be promptly investigated. The current incident and other similar occurrences should be analysed to identify the primary (root) cause and any contributing factors. The investigation report, setting forth primary cause, contributing factors, and corrective measures should be presented to management. Follow up action which specifically addresses the report's recommendations for corrective action should be undertaken and documented. Further guidance is provided in appendix 7.

3.8 Systematic programme evaluation and continuous improvement. Maintaining an effective health and safety programme is an ongoing process. The SOHSP should have systems for detecting, reporting, and correcting non-conformities to the programme. Some type of "formalized" evaluation should also be conducted on a periodic basis consistent with other aspects of the vessel's management plan. The evaluation should determine whether the SOHSP is appropriate for the vessel and its operations, that actual practices are consistent with the programs and procedures in the SOHSP, and that the SOHSP is effective. Comparison of data and records (refer to appendix 5, Record keeping) to performance objectives and criteria (refer to appendix 1, paragraph 3, health and safety objectives) can provide important indicators of the effectiveness of the SOHSP. Further guidance is provided in appendix 8.