

Maritime Safety Committee's
75th Session

15 to 24 May 2002

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<u>Regulatory Development</u>	<u>Ship⁺ Application</u>
OPENING REMARKS (page 2)	
MARITIME SECURITY (pages 2 & 3)	<i>All Ships</i>
<i>Ship Security Plans</i>	
<i>Security Alarm</i>	
<i>Automated Identification Systems (AIS)</i>	
<i>IMO Number</i>	
<i>Continuous Synopsis Record (CSR)</i>	
<i>Container Security</i>	
SOLAS AMENDMENTS AND INTERPRETATIONS (pages 3 & 4)	
<i>Enhanced Surveys</i>	<i>Oil Tankers and Bulkers</i>
<i>IMDG Code</i>	<i>All Ships</i>
<i>Ships Under Construction on 1 July 2002</i>	<i>All Ships</i>
PERMANENT ACCESS (pages 4 - 6)	<i>Oil Tankers and Bulkers</i>
<i>Draft SOLAS Regulation</i>	
<i>Ship Structures Access Manual</i>	
<i>Draft Technical Provisions – Bulk Carriers</i>	
<i>Draft Technical Provisions – Oil Tankers</i>	
BULK CARRIER SAFETY (pages 6 & 7)	<i>Bulk Carriers</i>
<i>Water Ingress Monitoring/Alarm</i>	
<i>Dewatering Systems</i>	
<i>Hatch Cover Design Loads</i>	
MISCELLANEOUS (pages 7 - 10)	
<i>Safety of Large Passenger Ships</i>	<i>Passenger Ships</i>
<i>Passenger Ship Evacuation Analysis</i>	<i>Passenger Ships</i>
<i>STCW Transitional Period to End</i>	<i>All Ships</i>
<i>Cargo Securing Strength</i>	<i>All Ships</i>
<i>Asbestos Monitoring Guidelines</i>	<i>All Ships</i>
<i>Testing of Watertight Doors</i>	<i>All Ships</i>
<i>Thermal Protection Assessment</i>	<i>All Ships</i>
<i>Immersion and Anti-exposure Suits</i>	<i>All Ships</i>
<i>ISM Major Non-Conformities</i>	<i>All Ships</i>
<i>Emergency Towing Arrangements</i>	<i>Existing Oil Tankers</i>
<i>HSC Model Test Guidelines</i>	<i>High Speed Craft</i>
FIRE SAFETY (pages 10 & 11)	<i>All Ships</i>
<i>FTP Code Type Approval</i>	
<i>Smoke Detectors</i>	
<i>Smoke Control</i>	
(+ “ships” are all self propelled vessels)	



OPENING REMARKS

The 75th session of the Maritime Safety Committee (MSC) met from 15 to 24 May 2002 at IMO Headquarters in London. Secretary General William A. O'Neil highlighted a number of ongoing efforts but focused on this session's most prominent agenda item -- the progress made by an intersessional working group, funded by the United States of America, to develop regulation aimed at improving maritime security.

A number of amendments to the SOLAS Convention were adopted together with MSC Circulars containing recommended guidelines supplementing SOLAS regulations.

MARITIME SECURITY

Work continued on the development of a revised SOLAS Chapter XI to include maritime security regulations in addition to maritime safety. A second intersessional working group funded again by the USA is scheduled for 9-13 September so that a final draft of the revised Chapter XI and a new Maritime Security Code can be completed for adoption at the December 2002 Diplomatic Conference.

Draft requirements approved at MSC 75 include the following provisions, which will be subject to survey and periodic certification by a special agency of the Administration or on behalf of the Administration by a recognized organization with special security expertise.

Ship Security Plans

Passenger ships, cargo ships ≥ 500 gt and mobile offshore drilling units must be provided with a ship security plan. The plan should contain procedures and measures to prevent introduction of weapons; identify shipboard restricted areas; provide procedures for responding to security threats and evacuation; assign shipboard security duties including auditing, training and drill procedures.

It is possible that the ship's Security Plan may be combined with the ISM Safety Management System.

New positions ashore and onboard by a designated ship and Company Security Officer will be required and responsible for implementing

these plans. Records are to be maintained to document the plan's effective implementation.

Security Alarm

Every cargo ship ≥ 500 gt, passenger ship and drilling unit constructed on/after 1 July 2004 will be required to be fitted with a ship security alarm which shall automatically *alert* shore authorities that the ship's security is under threat or is being compromised. The alert shall continue until it is deactivated by an authorized personnel. The alert shall not be sent to other ships and shall not raise an alarm on board. Existing passenger ships, tankers, bulk carriers and high speed craft will need to be retrofitted with such alarms by the first radio installation survey after 1 July 2004. All other cargo ships ≥ 500 gt and drilling units need to comply by the first radio installation survey after 1 July 2006.

Automated Identification System (AIS)

Agreement could not be reached on one of the four proposals tabled on accelerating the implementation dates for retrofitting AIS to ships (other than passenger ships and tankers) between 300 and 50,000 gt. The current range varies from 2004 to 2007 according to cargo ship size. The proposals range from 1 July 2004 (USA) to 2006 (Russia) with the European Union proposing a middle range beginning 1 July 2004 with full implementation by 1 July 2005.

IMO Number

The ship's assigned IMO Number is to be marked externally on the ship's stern, the front of the superstructure or on both sides of the ship by the plimsol mark. It is also to be marked internally on a bulkhead of a machinery space, a pump room (for tankers), or a ro-ro space (for ro-ro ships) or on a hatchway (for bulk carriers). This applies to passenger ships ≥ 100 gt and cargo ships ≥ 300 gt built on/after the expected entry into force date (1 January 2004) and to existing ships at the date of the first dry docking due thereafter.

Continuous Synopsis Record (CSR)

All passenger ships ≥ 100 gt and cargo ships ≥ 300 gt are to be provided with a CSR which indicates the ship's history from the date on which this regulation is scheduled to enter into force (1 January 2004). The Administration is to



issue the CSR which shall at least contain the history of the ship's name, registered bareboat charterer, Flag, class society, ISM (DOC and SMC) issuer and registered owner.

Container Security

The shipper shall ensure the security of a loaded container before it is offered for shipment on board. Two alternative means to ensure security are under consideration:

- Electronic Seal – records the seal's unique identification number for the container's number to which it is affixed and the status of the seal based on ISO Standard 18185, "Freight Containers - Radio Frequency Communication Protocol for Electronic Seal"; and
- Mechanical Seal – a high security seal that is uniquely numbered. Reference has been made to ASTM Standard F832, "Classification of Security Seals, Level D".

SOLAS AMENDMENTS AND INTERPRETATIONS

Enhanced Surveys

Resolution A.744(18) on enhanced surveys was amended to bring it in line with IACS Unified Requirements that are already implemented by IACS Member Societies. The amendments are contained in resolution MSC.125(75) and include the following provisions which enter into force on 1 January 2004:

Prompt and Thorough Repair on oil tankers and bulk carriers is to be carried out at the time of survey, except if adequate repair facilities are not available. The repair is to be permanent so as to alleviate the need to record it as a condition of classification to be followed up at the next survey.

Thickness Measurements of corrugated transverse bulkheads between the first two cargo holds in bulk carriers are contained in a new Annex. In order to assess their strength to resist the flooding of the No.1 cargo hold each vertical corrugation, corrugation flange, web shedder plate and gusset plate at two transverse bands is to be measured. This applies to existing *single side skin* bulk carriers (of 150 m length or above, carrying solid bulk cargoes having a density ≥ 1.78 tons/m³, constructed before 1 July 1999. Additionally, thickness

measurements carried out at any of the required surveys, if not carried out by the class society itself, must be witnessed by a surveyor to the extent necessary to control the measurement process to assure that the measurements represent the actual average condition of the structural member.

Annual Survey Requirements for the foremost cargo hold of existing bulk carriers described above which do not have a sufficient number of cargo holds to meet the damage stability requirements of SOLAS regulation XII/9.1. For bulk carriers between 5-15 years of age a minimum of 25% of the frames are to undergo close-up survey. This increases to 100% at ages exceeding 15 years.

Accelerated Implementation of survey requirements for bulk carriers and tankers more than 15 years of age require the intermediate survey to be the same extent as the prior special survey, except for pressure testing of cargo holds and tanks unless otherwise considered necessary by the surveyor.

An overall survey of every ballast tank is to be carried out for bulk carriers at ≥ 10 years of age and tankers ≥ 5 years of age at their intermediate survey. Further, close-up surveys of ballast and cargo tanks are to be to the same extent as the previous periodical survey for tankers ≥ 10 years of age. Previously, these intermediate survey requirements were not specified for bulk carriers and were required for tankers more than 10 yrs of age.

Also, ballast tanks sharing a common plane with a heated cargo tank must be internally examined on an annual basis for tankers exceeding 15 years of age.

IMDG Code

Resolution MSC.123(75) contains amendments to SOLAS Chapter VII that will, when it enters into force on 1 January 2004, require packaged goods and goods carried in bulk to comply with the International Maritime Dangerous Goods (IMDG) Code. This applies to all cargo ships regardless of size and to ships carrying more than 12 passengers.

However, not all of the provisions of the Code have been made mandatory and the following provisions remain voluntary:



- Training of officers and ratings responsible for cargo handling on ships and shore-based personnel;
- Transport of explosives relative to hazard division, compatibility and classification;
- The determination of flash point (a measure of risk of formation of explosive or ignitable mixtures when the liquid escapes from its packing);
- Column 15 of the Dangerous Goods List - the emergency schedule (EmS) number to identify when the "Emergency Procedures for Ships Carrying Dangerous Goods" is to be provided by the shipper;
- Column 17 of the Dangerous Goods List - properties and observations of goods;
- The transport schedules for class 7 Radioactive Material;
- Multi-modal Dangerous Goods Form
- Special provisions in the event of an incident and fire precautions.

Ships Under Construction on 1 July 2002

The MSC agreed that the term *first survey* includes the *initial survey* in addition to the annual and periodical surveys when applying the retroactive requirements calling for the fitting of the following equipment at the *first survey* on/after 1 July 2002 (or 2003 for AIS):

- Global Positioning System (GPS)
- Automated Identification System (AIS);
- Voyage Data Recorder (VDR) for passenger ro-ro ships.

Under SOLAS, the Initial Survey includes all the survey work necessary to issue a certificate before the ship is put in service. Therefore, a ship built before 1 July 2002 which is put in service and issued a valid safety equipment or passenger safety certificate on/after 1 July 2002 (or 2003 for AIS) needs to comply with the regulations referenced above when it is put into service.

Conversely, a ship which is put in service and issued certificates before 1 July 2002 (or 2003 for AIS) has until the date of the first annual or the first renewal survey for safety equipment/passenger safety, whichever occurs first after 1 July 2002, (or 2003 for regulation V/19.2.4) to comply.

PERMANENT ACCESS

Draft SOLAS Regulation

A draft SOLAS regulation applicable to oil tankers ≥ 500 gt and bulk carriers $\geq 20,000$ gt, constructed on or after 1 January 2005 was presented to the MSC for approval. The MSC decided to delay final review and adoption until MSC 76 (December 2002).

The draft regulation calls for each space within the cargo area to be provided with a permanent means of access to enable, throughout the life of a ship, overall and close-up inspections and thickness measurements of the ship's structures to be carried out by the Administration, the Company, as defined in regulation IX/1, and the ship's personnel. The means of access is to comply with the requirements of regulation II-1/12-2 and with a mandatory set of Technical Provisions.

Where a permanent means of access may be susceptible to damage during normal cargo loading and unloading operations or where it is impracticable, the Administration may allow, in lieu, the provision of portable means of access such as staging, moveable platforms and ladders as specified in the Technical Provisions, provided the means of attaching, rigging, suspending or supporting the portable means of access forms a permanent part of the ship's structure. All portable equipment shall be capable of being readily erected or deployed by ship's personnel. The means of access shall be subject to survey prior to, or in conjunction with, its use in carrying out surveys in accordance with regulation XI/2.

Safe access to cargo holds, cofferdams, ballast tanks, cargo tanks and other spaces in the cargo area shall be direct from the open deck and such as to ensure their complete inspection. Access to double bottom spaces may be from a pump-room, deep cofferdam, pipe tunnel, cargo hold, double hull space or similar compartment not intended for the carriage of oil or hazardous cargoes.

Tanks, and subdivisions of tanks, having a length of 35 m or more shall be fitted with at least two access hatchways and ladders, as far apart as practicable. Tanks less than 35 m in length shall be served by at least one access hatchway and ladder. When a tank is subdivided by one or more swash bulkheads or



similar obstructions which do not allow ready means of access to the other parts of the tank, at least two hatchways and ladders shall be fitted.

Each cargo hold should be provided with at least two means of access as far apart as practicable. In general, these accesses should be arranged diagonally, e.g. one access near the forward bulkhead on the port side, the other one near the aft bulkhead on the starboard side.

Horizontal openings, hatches or manholes shall be sized to allow a person wearing a self-contained air-breathing apparatus and protective equipment to ascend or descend any ladder without obstruction and also provide a clear opening to facilitate the hoisting of an injured person from the bottom of an internal space. The minimum clear opening shall not be less than 600_{mm} x 600_{mm}. When access to a cargo hold is arranged through the cargo hatch, the top of the ladder shall be placed as close as possible to the hatch coaming. Access hatch coamings having a height greater than 900_{mm} shall also have steps on the outside.

Vertical openings, or manholes, in swash bulkheads, floors, girders and web frames providing passage through the length and breadth of the space, shall have a minimum opening not less than 600_{mm} x 800_{mm} at a height of not more than 600_{mm} from the bottom shell plating unless gratings or other foot holds are provided.

Ship Structure Access Manual

A ship's means of access to carry out "close-up" inspections and thickness measurements shall be described in a Ship Structure Access Manual approved by the Administration, an updated copy of which shall be kept on board. The Ship Structure Access Manual shall include the following for each space in the cargo area:

- plans showing the means of access within each space, with appropriate technical specifications and dimensions, to enable close-up inspections to be carried out;
- instructions for inspecting and maintaining the structural strength of all means of access and means of attachment, taking into account any corrosive atmosphere that may be within the space;

- instructions for rigging and use of portable equipment; and
- an inventory of all portable means of access with safety instructions for the rigging.

Draft Technical Provisions – Bulk Carriers

Cargo Holds (Vertical Structure) - Permanent vertical access to allow for inspection of a minimum of 25% of the total number of hold frames port and starboard equally distributed throughout the hold including at each end in way of transverse bulkheads.

In no case should this arrangement be less than three permanent means of vertical access. Means to readily secure safety cages to the permanent means of access are to be provided. A means of portable access may be used to gain access over the sloping plating of lower hopper ballast tanks to the lower brackets.

Cargo Holds (Overhead Structure) - Three permanent means of access shall be fitted at both ends of sides of the cross deck and in the vicinity of the centerline. Each access is to be accessible from the cargo hold or directly from the main deck and is to be installed between 1.8_m to 2.5_m below the deck. Alternatively, if the height of the overhead structure of the cross deck is less than 17_m, a movable means of access (e.g., hydraulic arms with a stable base or wire lift platforms) may be accepted.

Lower Hopper Tanks – Tanks ≥ 5m in height are to be provided with one longitudinal, continuous permanent means of access for the full length of each tank, adjacent to side shell at 1.8_m to 2.5_m below the deck with vertical access ladders to the main deck access. Access holes are to be arranged at each transverse ring web within 600_{mm} of the tank base. Where the bottom web frame rings have a web height greater than 1m, step rungs/grab rails are to be provided to allow safe access over each transverse web frame ring and bottom web frame rings. Portable ladders may be used for a tank height < 5_m.

Top Side Tanks - Tanks ≥ 5m in height are to be provided with one longitudinal, continuous permanent means of access is to be provided for the full length of each tank, adjacent to side shell at 1.8_m to 2.5_m below the deck with vertical access ladders to the main deck access. Three (3) permanent vertical ladders are to be provided



from bottom shell to the top of the lower hopper plating at side shell connection fitted at each end and mid-span. Access holes are to be arranged at each transverse ring web within 600_{mm} of the tank base. Where the bottom web frame rings have a web height greater than 1m, step rungs/grab rails are to be provided to allow safe access over each transverse web frame ring and bottom web frame rings. Portable ladders may be used for a tank height < 5_m.

Draft Technical Provisions – Oil Tankers

Cargo & Inboard Ballast Tanks

Overhead Structure - is to be provided with one continuous athwartship permanent access arranged at every deck transverse on the *clean* (unobstructed) side of the web plating from 1.8_m to 2.5_m below the deck. Lightening holes (300_{mm} ϕ) shall be cut in the web plating, (each side of and adjacent to) each tripping bracket at a minimum of 3 locations. The athwartship accesses are to be accessible from a continuous longitudinal permanent access provided at the longitudinal bulkhead. Where a longitudinal bulkhead contains attached framing, the access shall be provided on that side. Portable ladders may be used for a tank height < 5_m.

Vertical Structure - is to be provided with permanent access unless the tank height is less than 5m in which case portable ladders may be an acceptable alternative.

Wing Ballast Tanks > 5m width

Overhead Structure - is to be provided with one continuous longitudinal permanent access provided for the full length of the tank from 1.8_m to 2.5_m below the deck with means to pass through swash bulkheads. Vertical access ladders are to be provided at each end of the tank and at its mid-span. Portable ladders may be used for a tank height < 5_m.

Vertical Structure - is to be provided with permanent access to each transverse web between horizontal stringers from the upper knuckle point of the bilge hopper section to the main deck. If the distance between these members < 5_m, portable ladders may be used

BULK CARRIER SAFETY

Water Ingress Monitoring/Alarm

IMO's first action taken relative to the UK's second formal inquiry into the loss of Derbyshire is contained in a set of new requirements for water ingress alarms.

Single and double side skin bulk carriers ≥ 500 gt built on/after 1 July 2004 (when they are put in service) and existing bulk carriers (by the first intermediate or renewal survey carried out thereafter) will need to be provided with water level alarms giving audible and visual indication on the navigation bridge when water is detected:

- at 0.5m and 15% cargo hold depth (but not more than 2m) shall be fitted at the aft end of each cargo hold. Bulk carriers which do not meet the damage stability requirements of SOLAS regulation XII/9.2 need only be provided with the higher level alarm;
- at a level corresponding to 10% capacity of any ballast tank forward of the collision bulkhead; and
- at 0.1m above the deck of any dry or void space (other than a chain locker) which extends forward of the foremost cargo hold.

There was some support for the U.K. proposal to accelerate the implementation schedule for existing bulk carriers from the first intermediate or renewal survey carried out after 1 July 2004 to the first annual survey carried out thereafter. BIMCO has reported that they may submit a paper to MSC 76, which is scheduled to adopt this regulation, arguing against such a proposal recognizing that the fitting of these alarms, particularly in cargo holds, will require flame cutting, welding, staging, cabling, etc., which is more safely carried out when the ship is in dry dock as opposed to the use of riding crews during operation.

IACS has adopted Unified Requirement S24 which contains a different implementation schedule as well as system requirements. UR S24 calls for single side skin bulk carriers ≥ 500 gt built on/after 1 January 2003 (when they are put in service) and existing bulk carriers (by the first intermediate or renewal survey carried out thereafter if ≥ 10 years of age on 1 January 2003 or by 10 years of age if <10 years of age on 1 January 2003) will need to be provided with water level alarms giving audible and visual indication



on the navigation bridge when water is detected at 2_m above the cargo hold bottom.

Dewatering Systems

Subject to adoption by MSC 76 in December 2002, bulk carriers ≥ 500 gt built on/after 1 July 2004 (when they are put in service) and existing bulk carriers (by the first intermediate or renewal survey carried out thereafter) will need to be fitted with a means of dewatering ballast tanks and dry spaces, any part of which extends forward of the collision bulkhead. Means of operation shall be readily accessible from an enclosed space that is accessible from the navigation bridge or propulsion control position without having to traverse exposed decks.

Hatch Cover Design Loads

Based on the UK's presentation of results of model tests carried out in association with the the MV Derbyshire casualty at Lancaster University, the MSC tasked the SLF Sub-Committee to update the design loads for hatch covers contained in the 1966 Load Line Convention taking into account the above model test results.

These tests were carried out in head, bow-quartering and beam seas on one Panamax (83k displacement) and two Capesize (188k and 204k displacement) bulk carriers. Vertical, transverse and horizontal loads on the hatches were measured on deck from mid-length forward, for three speeds (0, 13.5 and 15.5 knots). The tests did not indicate any clear trends as to the influence of speed on the vertical loads as there were inconsistent readings across the range of test conditions.

The Model Test Report places emphasis on the predicted longitudinal loads as they were well above the limiting loads of hatch covers to avoid longitudinal displacement -- reported to be 45kPa by industry sources.

In light of this, the UK expressed concern that IACS Unified Requirement S21, which provides for a more robust hatch cover than the 1966 Load Line Convention, may also need to be revised. IACS UR S21 requires *net* thickness (after a corrosion margin is deducted) to be used and takes into account design speed, coaming height above water, hull form and the hatch cover's longitudinal location. Preliminary results of IACS current assessment of UR S21 that

become available will be presented to the SLF Sub-Committee during its upcoming 45th Session (22-26 July 2002).

IMO discussions are currently focused on new bulk carriers, although IMO noted IACS' announcement to implement an equivalent requirement to existing bulk carriers and plans to wait for this outcome.

FSA Studies

The MSC considered progress reports from studies not yet completed (UK/International FSA Collaboration) and final reports from completed studies (by Norway/ICFTU, Japan and IACS) in developing a list of preliminary risk control options (RCO's).

The MSC was conscious of the fact that the list is tentative pending receipt of final FSA study reports, that some of the RCO's take into account the enhanced survey amendments to A.744(18) presented above, and that further study is needed to evaluate applying an RCO in conjunction with others or individually.

The approved list of tentative RCO's address:

- Improved structural robustness, reserve buoyancy (focsl/bulwark), and corrosion control & protection of the hull envelope;
- Improved robustness of hatch covers, deck fittings and their closing mechanisms;
- Enhanced evacuation warnings and abandonment provisions;
- Operational enhancements including increased control of loading capabilities and weather routing; and
- Earlier implementation of the structural survivability provisions of SOLAS Chapter XII (which IACS has accelerated from 15 to 10 years of age with effect from 1 January 2003).

IACS has announced the following five measures are under development with a target to complete the requirements in time to give owners sufficient notice to plan for and implement the modifications by the due date of the next Intermediate or Special Survey commenced on or after January 1, 2003:

- Installation of improved bulwark or breakwater structure on existing bulk



carriers when not fitted with a forecastle, and a forecastle on new vessels to provide more protection for forward hatches and fore-deck fittings;

- Increased integrity of fore-deck fittings on existing and new bulk carriers to resist green water loading;
- Implement hatch cover requirements to the forward 25% length of existing vessels that are generally equivalent to UR S21 requirements for new vessels;
- Implement requirements for the strength of side shell frames to existing vessels taking into consideration IACS UR S12, which currently is applicable to new bulk carriers; and
- Fit water ingress detection and alarms for spaces forward of the cargo area.

communication issues and officer/crew training levels;

- 8) Assess safety to proceed to port after fire/flooding by identifying essential systems and considering redundancy provisions;
- 9) Review hardware and human element measures to prevent grounding;
- 10) Review medical management practices, equipment, qualifications and staff levels;
- 11) Improve ship security (underway by MSC);
- 12) Review measures including food handling and sanitation relative to health-safety.

One new technology that is currently being considered under Task 3 is a proposal by the U.K. to allow the use of *directional sound* as an alternative to *low location lighting* for evacuation.

Placed at discrete locations, trial testing shows much improved evacuation times in smoke-filled spaces as the emitting sound was clearly identified and distinguishable against sound levels of a fire and one's own breathing apparatus. Costs have been estimated to be 20% lower than *low location lighting*.

There had been a proposal to quantify (at least nominally) the size of passenger ships (e.g., length, tonnage, number of persons) under consideration by this task. However, the MSC decided that it would be more appropriate for the individual Sub Committees to consider size as it may vary according to the assigned task.

MISCELLANEOUS

Safety of Large Passenger Ships

Continuing its effort to undertake a global, holistic evaluation of potential risks associated with large passenger ships, the MSC further refined its objectives and assigned a number of specific task to its Sub-Committees.

Based on the guiding philosophy that places emphasis on casualty prevention, improving survivability of the ship as a safe haven for its passengers, twelve tasks were assigned to relevant Sub-Committees, the last three of which were retained by the MSC:

- 1) Improve ship survivability against grounding, collision or flooding;
- 2) Assess fire protection and prevention measures (active/passive);
- 3) Assess emergency evacuation considering ship survival time and crowd management in light of any new technologies;
- 4) Review LSA functional requirements to develop performance-based standards;
- 5) Evaluate recovery and rescue techniques considering capacity of SAR services to rescue large numbers of passengers;
- 6) Develop measures to assess alternative designs to facilitate use of new technologies;
- 7) Review ship operations and management considering safe manning levels,

Passenger Ship Evacuation Analysis

To facilitate prompt evacuation by passengers and crew along escape routes, taking into account possible congestion that may occur due to crew movement in an opposite direction and the possibility that certain escape routes, assembly stations, embarkation stations or survival craft may be unavailable as a result of a casualty, the Committee approved MSC/Circ.1033 which contains interim guidelines to assess the adequacy and flexibility of escape arrangements.

Evacuation time limits are recommended to not exceed 60_{min} for ro-ro passenger ships and passenger ships with no more than three main vertical zones and 80_{min} for all other passenger ships. Evacuation time, calculated by a simplified method or by simulation analysis, is defined as the total time it takes all persons to travel (calculated in a probabilistic manner) to



their assigned assembly station plus 2/3 of the time it takes to embark and launch life boats (30_{min}-maximum).

Scenarios are assessed for evacuation during day and night, with different initial distribution of passengers and crew throughout the ship.

STCW Transitional Period to End

The MSC recalled that IMO's approved extension of the 1 February 2002 transitional period deadline will expire on 31 July 2002. The MSC also noted that after 31 July, major non-conformities could be raised against a ship and the Company in cases where the seafarer did not hold the necessary STCW 95-compliant certificates or endorsements.

In this regard, Japan informed the Committee that a concentrated campaign recently undertaken by the Paris MOU had indicated that approximately 35% of ships inspected had deficiencies in seafarers' certification.

Cargo Securing Strength

The Committee approved MSC/Circ.1026 which revises the advanced calculation method to determine the strength of securing equipment/lashings contained in the Cargo Securing Code. The new Circular:

- Revises the existing *safety factor* (1.5) used to determine the *calculated strength* of the device based on the device's *safe working load* (i.e., CS = SWL/1.5). For all calculations of force and moment a *safety factor* of 1.5 is to be used, except for *tipping* where 1.35 is to be applied;
- Provides for a more uniform definition of the horizontal securing angle given that securing devices do not usually have a pure longitudinal or transverse direction in the horizontal plane; and, based on this more uniform definition,
- Provides expanded tables of force coefficients as a function of friction and horizontal securing angles.

Asbestos Monitoring Guidelines

The MSC approved MSC/Circ.1045 which sets out guidelines for setting up a maintenance and monitoring program with the principal objective of minimizing exposure of all crew and passengers on board to asbestos fibers while the ship is "in

service' as opposed to when the ship is in a repair or dry dock. The guidelines consider three scenarios where there may be general exposure, where more direct exposure in working areas with a reasonable likelihood of asbestos/fibers and where asbestos/fibers are present (except for the three applications in pumps, fire risk watertight joints and high temperature flexible couplings permitted by SOLAS). An inspection and assessment on board ship by qualified professionals is also recommended.

Testing of Watertight Doors

The MSC approved an alternative means to test the watertightness of doors fitted in passenger ships and cargo ships where testing may cause possible damage to insulation or outfitting items. As an alternative to testing by water pressure to a head up to the bulkhead or freeboard deck respectively, prototype pressure testing (before the door is fitted) of each type and size of door with a test pressure corresponding at least to the head required for the intended location may be accepted. Installation and fit-up shall correspond to that of the prototype test with each door checked for proper seating. This regulation II-1/18 is scheduled for adoption at MSC 79 in December 2004.

Thermal Protection Assessment

The MSC approved MSC/Circ.1046 which provides information to assist in assessing the impact of environmental factors, specifically water temperature on thermal protection equipment selection in the context of hypothermia. Based on the criteria that thermal protective performance for various types of equipment is defined as the time to reach a deep body temperature of 35°C or reduce a deep body temperature by 2°C, where a significant degree of incapacitation is expected to occur, the Guidelines provide for comparison purposes only the following table of relative performance characteristics for equipment.

Thermal Protective Means	Lifejacket	Thermal Protective Lifejacket	Anti-Exposure suit	Immersion suit (Type 1)	Immersion suit (Insulated)
IMO Minimum Test Requirements					



Time	na	2h	1h	1h	1h
Temp	-	10°C	5°C	5°C	2°C
Time for core temp drop of 2°C or to 35°C When exposed to water with temps at left					
0°C	-	0.5h	1.5h	1.5h	6h
5°C	0.5 h	0.75h	2h	2h	>12h
10°C	0.8h	2h	4h	5h	>12h
20°C	1.7h	2h	10h	>12h	>12h

Immersion and Anti-exposure Suits

The MSC approved MSC/Circ.1047 which provides guidance to the crew, when inspecting immersion suits and anti-exposure suits required by SOLAS, to check the storage bag's general condition and that closures remain satisfactory for ease of suit removal. The suit, which should be dry inside and out and free of deterioration, should correspond to the type and size identified on the bag. Donning instructions should be legible and zippers should easily operate. Inflatable head support and/or buoyancy ring where fitted should be checked monthly for damage and inflated quarterly.

ISM Major Non-Conformities

Upon MEPC's October 2002 anticipated concurrence with MSC's approval, additional ISM guidelines will be issued for certifying compliance with the ISM Code.

The revision embraces the IACS practice of allowing a major non-conformity to be downgraded, provided a corrective action plan is presented to the auditor prior to completion of the audit. Such a practice is carried out in lieu of withdrawing the ISM certificate which, in the case of a withdrawn DOC, automatically invalidates the associated SMC's.

Somewhat different than the current guidelines (which require an audit equivalent in scope to that of an initial audit in order to revalidate the withdrawn certificate) a downgraded major non-conformity can be accepted provided an additional audit is satisfactorily completed within a time period not to exceed 3 months. During this period a short term certificate is issued to allow for the accumulation of objective evidence demonstrating the effective functioning of the SMS with respect to the corrective action

implemented relative to the major non-conformity.

Emergency Towing Arrangements

The Committee approved resolution MSC.132(75) which clarifies that the emergency towing arrangements fitted on existing tankers in accordance with resolution A.535(13) may be retained provided that the towing arrangements at one end of the ship are pre-rigged for ready deployment as per the requirements of the current Guidelines contained in resolution MSC.35(63).

HSC Model Test Guidelines

The Committee approved MSC/Circ.1029 which contains guidelines for the conduct of model tests for Ro-Ro High Speed Craft (HSC) in the event that such tests are to be used as a basis for exemption from the requirement to fit an inner bow door under the 2000 HSC Code.

The intent of the tests is to demonstrate that the craft satisfies certain residual stability criteria with accumulated water on the vehicle deck(s) as a result of failure of the bow shell door. Tests are required to be carried out for several headings and durations (which may be successively accumulated to represent the recommended 10 minutes of full scale operation).

The accumulated water may be determined by direct measurement at the end of each test or by calculation from measured relative water level within the vehicle space.

Tests should be carried out in waves with not less than two significant heights corresponding to 100% and 70% of the worst intended operating conditions using three narrow band JONSWAP spectra.

FIRE SAFETY

The MSC approved a number of circulars which contain recommendations and guidance relative to the application of fire safety regulations contained in SOLAS and the Fire Test Procedures (FTP) Code as summarized below.

FTP Code Type Approval

The MSC approved MSC/Circ.1036 which recommends that type approval certificates for



windows should indicate which side of the window was exposed to the heating condition during the test and cite which of the optional tests was applied.

The Circular recommends that the minimum window size tested under resolution A.754(18) be revised to reflect the maximum size and that the type of glass pane, its minimum thickness and gaps, if appropriate, should be commensurate for which approval is sought.

Test results obtained on this configuration should, by analogy, allow for extending approvals to windows of the same type, but with lesser dimensions or greater thickness.

Note - Items in [brackets] refer to the agenda items. For further information concerning the above information, please contact ABS Regulatory Affairs Department at: tel: 201-226-5320; fax: -5314; Email: gshark@eagle.org

Smoke Detectors

The MSC approved MSC/Circ.1035 which recommends that detectors fitted as equivalent to smoke detectors required by SOLAS should comply with Chapter 9 of the Fire Safety Systems Code. This includes requirements for power supply, performance, location and signal characteristics. The only exception is where carbon monoxide detectors are used, in which case the alarm threshold should be set at 40_{ppm} with the ability of the detector to be adjusted to high and low sensitivity settings in order to obtain the optimum performance and to minimize false alarms

Smoke Control

The MSC approved MSC/Circ.1034 sets out guidelines to prevent the entry of smoke from surrounding spaces into internal *assembly stations* in order to permit the assembling of passengers. For *atriums*, smoke control and ventilation systems should be capable of maintaining visibility in atriums in order to assist in safe escape and to allow fire-fighters to operate.

Compliance with the above performance standard is facilitated by requiring each internal assembly station and atrium to be served by a separate ventilation system that is independent of systems serving other spaces. Relative to the normal pressure found in surrounding spaces, the system is to maintain a negative pressure for the atrium (as this space is not considered an escape route) and positive pressure for internal *assembly stations* (as these spaces form part of the escape route).



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